



BADGER STATE Smoke Signals



For Radio Amateurs • By Radio Amateurs

RETURN ADDRESS:
Kenneth A. Ebnetter
822 Wauona Trail
Portage WI 53901

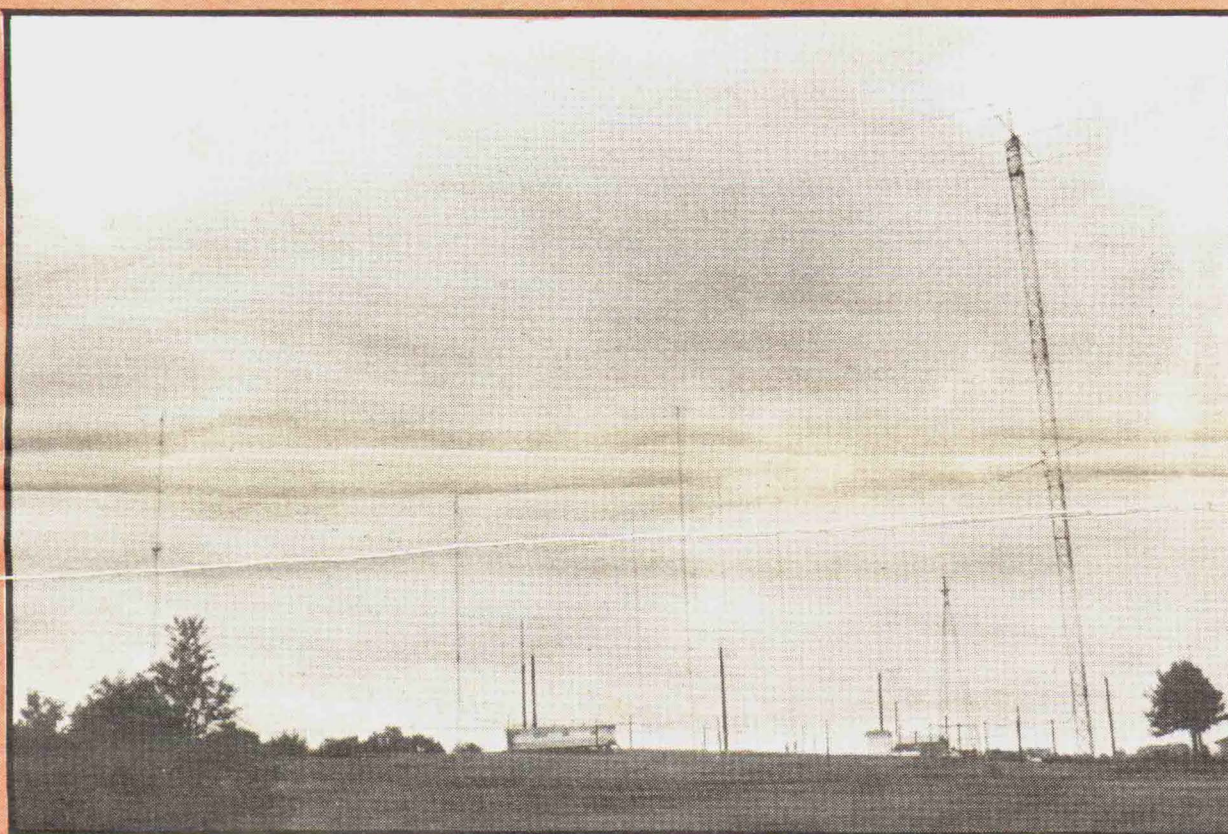
BULK RATE
U. S. POSTAGE
PAID
PERMIT #265
PORTAGE WI 53901

Published Monthly Since 1969 • Single Copy: \$1

Third Class Mail - Forwarding and Return Postage
Guaranteed - Address Correction Requested

Vol. 19 No. 10 - 226th Consecutive Monthly Issue - Baraboo, Wisconsin - October 1988

Wisconsin SuperStation has 24 Towers, More Antennas



NOT ALL SUPERSTATIONS ARE ON THE EAST OR WEST COASTS! These are some of the 24 towers used at a SuperStation in west central Wisconsin. The station was set up for CW contest operation, and has separate rigs for

each band. Several full-size antennas for 160 meters are also at the site. Read more about W0AIH in a story with photos by Gene Santoski, K9UTQ, on page 7 of this issue of Badger State Smoke Signals.

Report/Order Issued in 87-14

The Federal Communications Commission has released a Report and Order in Docket 87-14, the reallocation of 220 - 222 MHz to the land mobile service.

The effective date of the Order will be 30 days after the date it is published in the Federal Register. However, neither government nor non-government users will be allowed access to the 220 - 222 MHz segment until final service rules have been adopted by the Commission.

This is not expected to occur for many months. Meanwhile, amateur stations may continue to utilize the 220 - 222 MHz segment until private land mobile and government users are allowed access.

In the Order, FCC asks amateurs to begin an orderly transition of on-going operations in the 220 - 222 MHz segment to other bands.

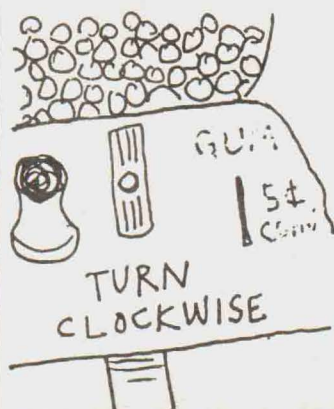
The ARRL continues to fight the Commission's order. See October QST for more details.

(From The ARRL Letter)

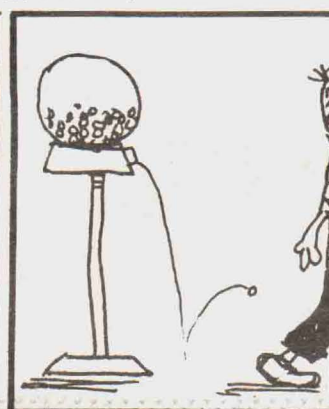
(See "Amateurs Angry, Dismayed" on page 15 of this issue.)

Vote in ARRL Elections • See p. 15

ELMER




by Rich Regent, K9GDF



ON THE INSIDE

Swapfests and Other Social Events	--2
Club Meetings	-----2
The Test Point	-----3
Wisconsin Nets Association	-----4
Identifying Kerchunkers	-----5
Riverland Amateur Radio Club	-----6
Sunken Ships and Raised Antennas	-----8
Eau Claire Amateur Radio Club	-----9
Repeater Profiles	-----10
Riverland ARC Demonstrates AR	-----11
New Products	-----12
Simulated Emergency Test Upcoming	-----12
Pie-Eyed Walleyes	-----13
Wisconsin's Wheels to Meals	-----14
Correspondence	-----14
The Wisconsin Packeteer	-----16
Yellow Thunder Amateur Radio Club	-----19
- and other assorted goodies! -	



**BADGER STATE
Smoke Signals**

For Radio Amateurs • By Radio Amateurs


Officers and Staff:

CHAIRMAN
Kenneth A. Ebner, K9EN
822 Wauona Trail
Portage, Wisconsin 53901
(608) 742-3560

EDITOR
Jim Romelfanger, K9ZZ
412 1/2 Ash Street
Baraboo, Wisconsin 53913
(608) 356-4249

TREASURER
Jim Decker, WB9UQT
P.O. Box 337
Baraboo, Wisconsin 53913

ADVERTISING MANAGER
Harry Westlund, K9EHJ
720 Jefferson Street
Baraboo, Wisconsin 53913
(608) 356-6836



SUBSCRIPTIONS

1 year	(12 issues)	\$8.50
2 years	(24 issues)	\$16.00
3 years	(36 issues)	\$23.00

ADDRESS CHANGES AND CORRECTIONS should be sent to Kenneth A. Ebner, address above.

EDITORIAL MATERIAL, PHOTOGRAPHS, FEATURE ARTICLES, AND EXCHANGE PAPERS should be sent to Jim Romelfanger, address above.

DISPLAY ADS OR INQUIRIES REGARDING DISPLAY ADS should be directed to Harry Westlund, address above.

SUBSCRIPTIONS should be sent, with check or money order (do not send cash), to Jim Decker, address above.

Permission is hereby granted to reprint items from BSSS, providing credit is given to the original author, publication in which the item first appeared, and to Badger State Smoke Signals. This paper is mailed from Portage WI 53901. This paper is produced by Amateurs for Amateurs. It is all volunteer and non-profit.

EDITORIAL DISCLAIMER

The opinions expressed in editorials, guest editorials, columns, articles, and letters are the opinions of the authors only, and do not, unless otherwise stated, express or imply agreement or endorsement by Badger State Smoke Signals, or any other organization.

Swapfests and other Social Events

SUNDAY, OCTOBER 2, 1988. ROCKFORD HAMFEST at the National Guard Armory, 605 North Main St., Rockford, IL. The ARRL Illinois State Convention. Amateur Radio Exams, ARRL Forum & much more. For details, see the ad on page 5 of last month's issue of BSSS.

SATURDAY, OCTOBER 8, 1988. The 38th ANNUAL GROUNDHOG PARTY. Held at the Moose Home, Bypass 16 & Hwy 109. \$7.00 per plate, family style chicken. Registration starts at 4:00 p.m. with dinner at 6:00 p.m. Advance reservations are a must. This has been the REUNION of Amateur Radio operators for the past 37 years. Help make the 38th a success with your attendance. Send

reservations to Theron (Teen) Norbury, W9LUB, 515 Carl Schurz Drive, Watertown, WI 53094. (414) 261-0637

SUNDAY, OCTOBER 30, 1988. The KMRA SWAPFEST will be held at the Waukesha Expo Center, Forum Building, Highways J & FT in Waukesha WI. All indoors, easy entry, no stairs, Doors open at 7 am for sellers and 8 am for the general public. Prices: \$2.50 advance, \$3.00 at the door, \$4.00 per 4-ft reserved table, and \$4.00 per 4 ft table at the door. Reservations accepted until October 15th. KMRA, 313 Hillview Circle, Waukesha, WI 53188.

SATURDAY, OCTOBER 29, 1988. Hamfest Minnesota & Computer Expo. 9000 Brooklyn Blvd., No. of I-694 & Hwy. 169 (previously Cty. Rd. 18), Brooklyn Park, Minnesota. Speakers: Roy Neal, K6DUE and Will Steger. Admission: \$4.00 advance or \$5.00 day of show. Tables: \$10.00 full table or \$5.00 for a half table. Contact: Hamfest Minnesota & computer Expo, Box 5598, Hopkins, MN 55343.

SUNDAY, OCTOBER 30, 1988. LATE FALL HAMFEST. At the Lake County IL, Fairgrounds, Rts. 45 & 120, Grayslake, IL. Admission \$3.00, tables \$5.00. First come first served. Contact CAP, 637 Emerald St., Mundelein, IL 60060.

SATURDAY, NOVEMBER 12, 1988. The Milwaukee Repeater Club is proud to sponsor the 4th annual "6.91 Friendly Fest" from 8:00am to 1:00pm (sellers admitted at 7:00am), at Serb Hall, 51st & Oklahoma Ave. The newly renovated selling halls will be located entirely on the ground floor with easy access so, rain or shine, gather up your swapfest bargains and come share our famous Milwaukee hospitality. Tickets are just \$3.00, four-foot tables for \$4.00. to save \$1.00 per ticket or table send SASE with payment to the Milwaukee Repeater Club, P.O. Box 2123, Milwaukee, WI 53201, before November 5, 1988. Talk-in on 146.91 (The Friendly Repeater) and on 146.52. On-site Amateur Exams. Info: (414) 444-4589 (24 hr. answering machine).

JANUARY 14, 1989. West Allis RAC Midwinter Swapfest, Waukesha, WI. (see ad on last page)

MARCH 11, 1989. Fox Cities ARC Swapfest, Appleton, WI.

MARCH 19, 1989. Tri County ARC Swapfest, Jefferson, WI. (see ad on last page)

APRIL 9, 1989. Madison Area Repeater Assn. Swapfest, Madison, WI. (see ad on last page)

JULY 8, 1989. South Milwaukee ARC Swapfest, Oak Creek, WI. (see ad on last page)

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas.

Send information on your event to Kenneth A. Ebner, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages. For information on rates and requirements for our advertising pages, please contact K9ZZ or K9EN.

Club Meetings

BADGER AMATEUR RADIO SOCIETY
(W9YT - UNIVERSITY OF WISCONSIN - MADISON)
Monthly while school in session - 2nd Wednesday - 7:30 p.m. - B-314, Electrical Engineering Building.

CENTRAL WISCONSIN RADIO AMATEURS, LTD.
(STEVENS POINT)
Second Wednesday.

EAU CLAIRE AMATEUR RADIO CLUB
2nd Tuesday - 7:30 p.m. - Parks and Recreation Bldg., Oxford and 1st Streets, Eau Claire. Hams, guests welcome. Travelers welcome on wide area club repeater K9UXP, 146.31/91.

FOUR LAKES AMATEUR RADIO CLUB (MADISON WI)
First and third Tuesdays - 7:30 p.m. - Red Cross Bldg., 4860 Sheboygan Ave.

FOX CITIES AMATEUR RADIO CLUB
Third Monday - 7:00 p.m. - Roosevelt Jr. High School, 318 E. Brewster St., Appleton. Info: (414) 735-6294. Winter Banquet, January 23, 1988. Contact KA9MPP.

GREEN BAY MIKE AND KEY CLUB
Second Thursday - Red Cross Bldg., corner Danz and Deckner, Green Bay.

GREEN FOX AMATEUR RADIO CLUB
Third Monday - 7:30 p.m. - Green Lake Town Hall, int. of county hwy. K and N.

KETTLE MORAINE RADIO AMATEURS
Second Friday.

LAKESHORE RPTR. ASSN.
4th Tuesday, Jan., Apr., Jul., & Oct., 7:30 p.m. Red Cross Bldg., 4521 Taylor Ave., Racine, WI.

MANITOWOC COUNTY RADIO AMATEURS
First Wednesday - 7:00 p.m. - City Hall, 817 Franklin St., Manitowoc.
Second Wednesday - Red Cross Building, 1816 Washington St., Manitowoc.

MENOMONEE FALLS AMATEUR RADIO CLUB
Last Tuesday - Doors open 7:30 p.m., meeting begins 8:00 p.m. - Security Savings and Loan, Menomonee Falls. Amateurs and guests welcome.

MILWAUKEE RADIO AMATEURS CLUB
Fourth Thursday - Wauwatosa Savings and Loan, 7500 W. State St. (November on the third Thursday. No meetings in July, August and December.) Meetings begin at 7:00 pm.

OZAUKEE RADIO CLUB
Second Wednesday - 7:30 p.m. - Saukville Community Center.

QCWA - WISCONSIN CHAPTER #55
Fall annual dinner meeting, Saturday, October 1, 1988 at the Oak Wood Inn, Waupaca, WI. Contact Richard R. Regent, K9GDF, 5003 So. 26th St., Milwaukee, WI 53221 for reservations.

QCWA - SOUTHEAST WISCONSIN CHAPTER #162
Meets third Monday monthly, 7:30 p.m., Around the Clock Restaurant, 3012 Rapids, Drive, Racine.

RACINE MEGACYCLE CLUB
Second Tuesday, 7:30 p.m., Red Cross Bldg., 4521 Taylor Ave., Racine, WI

RIVERLAND AMATEUR RADIO CLUB
First Tuesday - 7:30 p.m. - Onalaska Community Center, Onalaska WI.

ROCK RIVER RADIO CLUB

First Tuesday - 8:00 p.m. - Dodge County Sheriff's Dep't, 141 N. Main, Juneau WI.

SHEBOYGAN COUNTY AMATEUR RADIO CLUB

Second Tuesday - 7:00 p.m. - Sheboygan Red Cross/Boy Scout Bldg., 2032 Erie Ave.

SOUTH MILWAUKEE AMATEUR RADIO CLUB

First Wednesday - Legion Post 434, Shepard Ave., Oak Creek WI. Auctions in March and October.

TRI-COUNTY AMATEUR RADIO CLUB

Meetings are held at 7:00 p.m., the second Sunday of each month at the Trinity Lutheran Church, 314 Barrie, Fort Atkinson, WI.

WEST ALLIS RADIO AMATEURS CLUB

Second Tuesday - 8:00 p.m. - St. Francis Savings, 9330 W. Greenfield Ave.

WISCONSIN VALLEY RADIO ASSOCIATION (WAUSAU)

First Tuesday - 7:30 p.m. - Location varies; info on 146.04/64, Wausau.

YELLOW THUNDER AMATEUR RADIO CLUB (BARABOO)

Days rotate: 1988 meeting dates: Tue., Oct. 11, Wed., Nov. 16, Thu., Dec. 15. Monday meetings in room 28D of the Baraboo Civic Center; all others in room 25. Meetings start 7:30 p.m.

Let Badger State Smoke Signals know your club's meeting dates, and we will let our readers know of your meetings and activities.

The TEST POINT



The following are known locations where Amateur Radio license examinations are scheduled in the Badger State area.

October 9, 1988	Bloomington, MN
October 15, 1988	Milwaukee, WI (BE)
October 15, 1988	Eau Claire, WI
October 15, 1988	Minneapolis, MN
October 30, 1988	Tomahawk, WI
November 12, 1988	Menomonie, WI
November 12, 1988	Rhineland, WI
November 12, 1988	Bloomington, MN
November 19, 1988	Milwaukee, WI (BE)
December 3, 1988	Stevens Point, WI
December 10, 1988	Appleton, WI
December 10, 1988	Bloomington, MN
December 17, 1988	Milwaukee, WI (BE)
December 17, 1988	St. Paul, MN
March 18, 1989	Menomonie, WI
June 17, 1989	Menomonie, WI
November 11, 1989	Menomonie, WI
Monthly, First Sat.	Racine, WI
Monthly, Third Sat.	Loves Park, IL

GENERAL RULES FOR MOST EXAMINATIONS:

Be sure to check with sponsors in the event there are changes and/or errors in the dates or information given.

Most examinations require filing an FCC Form 610 and advance registration at least 30 days before the exam date. (Some VECs permit walk-ins. Check with sponsor.)

To register, you must first secure a copy of the current FCC Form 610 and fill it out completely (AND CORRECTLY). Get your form from an FCC Field Office, the ARRL or Badger State Smoke Signals. Send a 25¢ SASE if you request one from the ARRL or BSSS. In most cases, forms can also be obtained from the sponsoring group.

ARRL/VEC examinations require a check for \$4.55 payable to "ARRL/VEC".

The FCC now requires applicants to show their original Amateur license to the VEC. A copy of your license must be attached to your FCC form 610. You will also be required to have a photo ID, or other acceptable identification.

Technician class licensees must show proof of testing before March 21, 1987, in order to upgrade to General with a code test only.

Additional information is given below.

MILWAUKEE METRO AREA TEST TEAM - MRAC/VEC (MRAC)

Tests are 7:00 p.m. at Wauwatosa Savings and Loan, 7500 West State St., lower level. Please arrive promptly so test can be completed by 10:00 p.m. Bring your original license and three good photocopies, a pen, and \$4.55 for the exam fee. Walk-ins accommodated if time permits. Register in advance on a Postal Service 15 cent post card; print the grade of license you are applying for, and your name, address, and telephone number. Send the card to The Milwaukee Radio Amateurs' Club, Inc., N50 W16328 Pin Oak Ct., Menomonee Falls, WI 53051.

BADGER EXAMINERS (BE) - MILWAUKEE

September 17, October 15, November 19, & December 17

Unless otherwise noted, examinations are administered beginning at 1:00 p.m. at St. Nicholas Parish, 5353 N. Green Bay Ave. (2 1/2 blocks south of Silver Spring), Milwaukee. Number for coin telephone at exam location is 228-9994. Walk-ins are welcome. Bring your original license, a good photocopy of it, and a second form of identification. Technician license holders must bring proof of having been tested prior to March 21, 1987 to upgrade to General with code test only. To register in advance, send a post card with your name, test or tests you wish to take, date you wish to be tested, your call sign, address and telephone number to Badger Examiners, Mickey Dolgin, KB9G, 507 E. Spooner Rd., Fox Point, WI 53217. (414) 351-5311.

FOX CITIES AMATEUR RADIO CLUB VOLUNTEER EXAMINERS

December 10, 1988 - Roosevelt Junior High School, Appleton, Wis., 9:00 a.m. until noon. Walk-ins are always welcome. For more information, contact Larry Siebers, KD9IA, 7077 Weyers Rd., Freedom, Wis. 54131, or call (414) 788-3823.

STEVENS POINT, Wisconsin

December 3, 1988

By Central Wisconsin Radio Amateurs, Ltd. Contact Joseph W. Larson, N9JW, 644 Portage St., Stevens Point, WI 54481. (715) 344-1182.

EAU CLAIRE, WI - W5YI/VEC

October 15, 1988 - 9:00 A.M. to Noon. Exams are given at the University of Wisconsin Facilities Management Building in Eau Claire, except that the July exams are given in conjunction with the Eau Claire Amateur Radio Hamfest. There is no pre-registration requirement. Contact: Carl Searing, W9NW, 1129 McKinley Road, Eau Claire, WI 54703. (715) 834-1303.

MENOMONIE, WI

Credit Union Office Building, Conference Room, lower level, 444 S. Broadway, Menomonie, WI. Contact: Dr. Thomas W. King, KD9TT, c/o office, 444 S. Broadway, Suite 1, Menomonie, WI 54751. (715) 235-4747 (O), 235-5757 (H).

RHINELANDER, WISCONSIN

November 12, 1988.

All will be held at Nicolet College Science Center in the Fireside Room starting at 9:00 a.m. All sessions held at Nicolet College will be by appointment only. Registration required thirty days in advance of testing session, with check payable to "DeVry VEC" for \$4.55. Only Technician class and above will be given at the testing sessions.

Novice tests will be given by appointment at any time except at regular scheduled testing sessions.

Contact: Leonard Bauman St., K9RMN, 1312 Dorothy St., Rhineland, WI 54501. (715) 369-3296.

RACINE, WISCONSIN - ARRL/VEC

First Saturday of each month except during summer and the Christmas holidays.

Exams are given at the Red Cross Building, 4521 Taylor Ave., Racine, WI. Walk-ins are permitted.

Send pre-registration to: William R. Firchöl, Jr., N9DMP, 1912 27th Street, Kenosha WI 53140.

Third Saturday of every month.

Northern Illinois Volunteer Examiners (DeVry VEC). Held at North Suburban Library on North Second Street in Loves(Park, IL. Contact: Gene Melton, AK9N, 2901 Billie Rd., Rockford, IL 61109, (815) 874-6867

MINNESOTA TESTS

October 9 - Bloomington
October 15 - Minneapolis
November 12 - Bloomington
December 10 - Bloomington
December 17 - St. Paul

To register for these tests, or for more information, contact as follows:

St. Cloud Amateur Radio Club

Len Carlson at (612) 252-0783

Amateur Radio Association of Bloomington

Art Putt at (612) 881-7181

St. Paul Radio Club, Inc.

Mary Ketzler at (612) 426-4438

Minneapolis Amateur Radio Club

Jeff Kolb at (612) 699-6961.

Minnesota test information courtesy of Marv Mahre, W0MGI.

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules.

Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to K9EN or K9ZZ at the address shown on page 2.

The stork is much smarter than the owl. The owl asks, "whooh whooh?" The stork knows who.

Wisconsin Nets Association Ltd.

WISCONSIN NETS

Net	WNA	Freq	UTC	CDT	Manager
BWN	Yes	3984	1100	0600	KC9CJ
BEN	Yes	3985	1700	1200	KA9RII
WSBN	Yes	3985	2230	1730	K9ANV
WNN	Yes	3723	2300	1800	KA9TTM
WSSN	Yes	3645	2330	1830	N9BDL
WIN/E	Yes	3662	0000	1900	WB9ICH
WIN/L	Yes	3662	0300	2200	W9NGP
NWTN	Yes	34/94	2330	1830	NS9Q
Gr. Bay	No	72/12	0145 Thu.	2045 Wed.	WB9NRK
RACES	No	3993.5	1715	1215	WC9AAG
			USB Tues and Thurs		
RACES	No	3993.5	1300	0800	WA9OAY
			LSB Sunday		

Richard R. Regent, K9GDF
5003 South 26th Street
Milwaukee, WI 53221

From the Section Manager

At the Wisconsin Nets Association Picnic, members presented the 1987 traffic handling plaque to Les Peterson, W9YCV, with 3,024 points; endorsement tags for their previously awarded plaques were given to WB9YPY (17,092 points), KC9CJ (6,768 points), and KA9RII (4,989 points).

Congratulations to new Official Observer KJ9I monitoring in Oconomowoc.

Active hot air balloonist WB9ZRE is operating two meters; not much of an antenna, but a lot of height.

November 12th, the Milwaukee Repeater Club will hold the 6.91 Friendly Fest, open at 8:00 a.m., 7:00 a.m. for sellers, inside Serb Hall, 51st and Oklahoma in Milwaukee with free parking. Contact K9IZV for more information. The Friendly Fest will have on-site exams given by the Milwaukee RAC VEC starting at 9:00 a.m. See you at the friendly ARRL table.

November 12th, exams at Credit Union Office Building, Menomonie, contact KD9TT for info; and at Nicolet College Science Center, Rhinelander, reservations with K9RMN.

November 19th at 1 p.m., the Milwaukee Area exams by Badger Examiners, 5353 North Green Bay Avenue, registration with WA9UJK.

Sorry to report Silent Key WB9TCW.

Remember to write your club's name on your log for the November phone or CW ARRL Sweepstakes contest.

Don't delay your antenna work any longer, winter is coming.

Happy Thanksgiving to all.

Universal Traffic Queries

NUMBER 13 OF A SERIES

Gene Santoski, K9UTQ
Section Traffic Manager
Wisconsin Section ARRL
1220 18th St. So.
Wisconsin Rapids, WI 54494

If you have read all of the articles in this series you should have a good "grasp" on how to handle traffic by now.

YES, BUT WHAT ABOUT THESE THINGS CALLED "BOOK MESSAGES"?

Ah yes, book traffic. Well, it is really a very simple procedure to handle book traffic. You can often run into this type of traffic originating from fairs, mall shows and other special events.

Each such message has a common text and signature, and much the same preamble. ONLY THE ADDRESS IS DIFFERENT. All the common parts of the messages are sent first. After this is completed, then the parts that are different (Message Number and Address data) are sent.

The "booking" of messages is strictly an option with the originating, relaying and delivering operators. Every operator has the right to combine messages into "book form" or to "decombine" books into separate messages - whatever works best for the station handling the traffic. This decision is usually based upon how many pieces of traffic one "receiving" station can handle. In other words, just because you received messages in book form doesn't necessarily mean that you have to send them that way. It is strictly up to you. It is important to remember however, that the "booking" of messages does not in any way demean their importance. The book form has one objective only: speed and convenience in handling. DO NOT use the word SAME for similar parts of the message when sending it.

Most messages are booked with the following common parts: precedence, station of origin, check, place of origin, time, date text and signature. The sending procedure, therefore, is to send first an indication that a book of messages follows and the number of messages that the book contains - on CW/RTTY, "BOOK OF FOUR", on phone "BOOK OF FOUR". You then skip the message numbers, and send the rest of the preamble in standard order followed by a break (BT). The address information is deleted and the text follows, then another break (BT) after which comes the signature. At the end of the signature DO NOT send the "end of message" sign (AR), but another break sign and then go into the separate numbers and addresses. Each number and address, as it is sent, is followed by a break (BT) sign until the last one, which is followed by "end of book" (AR END OF BOOK) and then "end of message" (AR). This is followed by the customary indication of "more" (B) or "no more" (N). That's all there is to it!

HOW DO I COUNT THE TRAFFIC I HANDLE AND WHY SHOULD I??

In order to add a little "spice" of competition to this game of traffic handling, a count is kept each month of the number of messages handled by each station active in traffic handling. This count is reported monthly to your Section Traffic Manager (K9UTQ) by the 7th of the month following. This is then tabulated and sent to ARRL Headquarters by the STM. The ARRL publishes these totals in the SECTION NEWS columns in QST each month in the respective ARRL sections.

Stations that accumulate a large number of "traffic points" in a given month are given a separate report in QST in the Brass Pounder's League (BPL) section. More on that later.

Now to answer the first part of the question - how to count traffic. Well, it is really quite simple once you have an idea of what categories of traffic there are and how they are included in

the count. There are basically four categories: ORIGINATED, RECEIVED, SENT, DELIVERED. I will discuss each in that order.

ORIGINATED traffic is any message originated by someone other than yourself, filed with your station for initial transmission on the air. This could be other family members, relatives, co-workers, neighbors - anyone but you. This IS NOT an on the air function.

SENT traffic is any messages sent from your station to another over the air regardless of mode or band. This category includes ORIGINATED as well as messages you transmit from other stations (RELAYED).

RECEIVED traffic is any message received by you OFF THE AIR to be delivered or relayed.

DELIVERED traffic is any message received by you OFF THE AIR to be delivered to the addressee by whatever means necessary (telephone, mail, personal contact, etc.) This IS NOT an on the air function. By the way, this does not include traffic addressed to you personally.

So, in looking at the above categories, you could get up to two (2) points per message. For example:

Let's say a neighbor asks you to send a message to his brother in California. You would get one point for ORIGINATING and another point for SENDING it on the air.

Another situation would be when you RECEIVED a message from another station (off the air only) to be SENT (relayed) to still another (on the air only) - 2 points - one for receiving/one for sending.

If you RECEIVE a message for DELIVERY, that is two (2) points - one for receiving/one for delivery.

Regarding BOOK messages, count ONE POINT for every THREE messages in the book, PLUS another point for any over a multiple of three. That is, a book of three messages would count as a single message, but a book of four, five or six would count as TWO, a book of 7 would count as THREE etc. This count applies only to receiving and sending. Messages cannot be originated or delivered in books, so each message ORIGINATED or DELIVERED gets one point regardless if it is sent in a book or not.

The grand total is merely a sum of totals in each category for the month. It's that simple!! Yet, this is one of the least understood aspects of handling traffic.

See you next month and good netting!!

K9UTQ/STM WISCONSIN

From the Affiliated Club Coordinator

Greg A. Miller, KA9FOZ
2522 Wood Street
La Crosse, WI 54603

As Affiliated Club Coordinator, I have been asked at different times, "What is the benefit of being affiliated with the American Radio Relay League?" This has prompted me to write this article in the hope that there may be some Amateur Radio clubs out there that don't know the benefits, and will want to become affiliated once they know them.

Being affiliated with the ARRL means that your club would be a member of a very large, organized group of other Amateur Radio operators whose best interest is watching after your best interest. This can be very important, because

(continued on page 19)

Identifying Kerchunkers

By Richard R. Regent, K9GDF
5003 South 26th Street, Milwaukee, WI 53221

A "Kerchunker" is a person who briefly turns on a repeater's transmitter without identifying. Kerchunkers sometimes do this to find out if they can reach a repeater, from various locations and at random times, to ensure that their transceiver and the repeater is working. Transmitting a signal without identifying, however, is illegal, so Kerchunkers need to be made aware of the rules as part of Amateur Radio's self-policing tactics to improve the image of the service.

Kerchunkers are difficult to identify because their transmissions are short. If there were a method to identify such short momentary signals, it could easily determine the origination of longer duration signals, ranging from accidental key-ups to blatant jamming.

Warren Schall, K9IZV, revealed just such a technological tool that can identify Kerchunkers on two-meter repeaters. In an enlightening program given to the Milwaukee Repeater Club (146.31/146.91), Warren described detective equipment which consists of a Heath Digital Memory Oscilloscope (Model 4850), an IBM-PC compatible computer, and a Micro Control Specialties receiver (Model MR4). Almost any receiver can be used in this setup because discriminator and signal strength alignment test points, even with external outputs, are a common feature with receivers. The oscilloscope, set for one-shot triggering on a rising signal, is ready to capture and store data in memory. The digital memory oscilloscope is set to store an entire waveform as digital numbers, using 256 amplitude and time coordinates. A fraction of a second transmission is enough time to get a complete file on a Kerchunker.

A freeze-display of the signal on the oscilloscope is the unidentified transmitter's fingerprint. Somewhat like matching fingerprints with a file of everyone who has ever had fingerprints taken, this system may eventually be programmed to match a Kerchunker, or other unidentified signals, with records in a database of characteristic waveforms of transmitters in the area. Warren explains, "Each transmitter has a characteristic set of parameters, sometimes called a signature." There are a few key factors to look for when analyzing waveform signatures:

1. Initial transient response waveforms, the momentary frequency changes a transmitter undergoes as it stabilizes after being turned on, produce a unique blip on the scope screen. The phase lock loop time constants used in most modern FM transmitters generate fairly similar signatures in a given unit each time it is keyed.

2. Number of cycles the transmitter is off frequency, as indicated by the receiver discriminator output DC level,

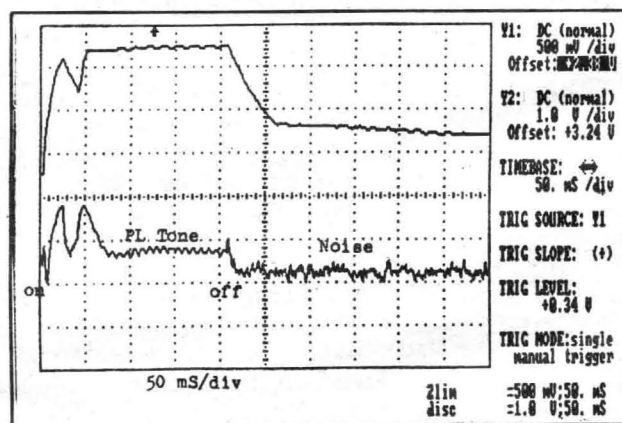
3. The frequency and amplitude of a Private Line (PL) sub-audible tone or hum. The frequency of the subaudible tone can be easily found by expanding the waveform on the computer screen. Count the cycles in a given time period or find the time period for a number of full cycles, then take its reciprocal to get the frequency of the tone. The tone may match one of several used in the area, but could be off enough or have an unusual amplitude to provide positive identification.

4. Audio deviation level, around 4.0 to 5.5 KHz.

5. Absolute strength of the signal.

There are also a few special considerations. By monitoring the signal strength on the 2nd limiter output of the receiver, it is sometimes possible to determine if the transmitter is mobile in motion. This shows up as a wavy strength indication. Even special transmitters, with a turn-on delay that may mask part of the initial transient, use different time delays which give clues for identification. Again, time and waveform shapes reveal interesting particulars.

Identical twins may be very similar looking, but not in all ways. Various units of the same model transmitter may have similar waveforms, still they usually can be distinguished from each other by analyzing their signatures. The detective work takes some preparation, but once a signal is captured it can be documented by unique waveforms, saved to disk, and printed to paper. Here is a sample "signature" print-out:



Although signals for this demonstration travel from the digital scope to the computer with RS-232 cable, they could be transmitted over packet radio to distant monitoring control operators. Control commands could then arm or disarm the scope system and request waveform data. Now when someone in the database plays "Mary Had a Little Lamb" on a repeater using the touch tone™ pad, you can identify the culprit. "Hey buddy, cut that out!" Surprised and embarrassed, Buddy will assuredly stop the needless songs and any other unidentified Kerchunks.



HERE and THERE



WARREN SCHALL, K9IZV, of Milwaukee, pictured above, recently gave a demonstration on identifying kerchunkers to the Milwaukee Repeater Club (146.31/91); that demonstration is described in the article on this page. Warren also built a packet radio-controlled robot named "Friendly"; Friendly was the subject of an article here in BSSS ("Have Robot, Will Packet" by Richard Regent, K9GDF) in July 1988.

In the photo, Warren is operating the radio aboard the Great Circus Train in July, 1988. Radio Amateurs also provide invaluable assistance with the Great Circus Parade in Milwaukee, with some 75 operators working in one of the largest Amateur Radio Emergency Service (ARES) operations in the midwest every year. Milwaukee County ARES Emergency Coordinator John Leekley, WB9SMM, can always use more able Amateurs to help with communications for both the City of Festivals Parade and the Great Circus Parade every July; both are enjoyable to work. Why not keep them in mind for 1989? We'll pass the dates along in a future issue of Badger State Smoke Signals.

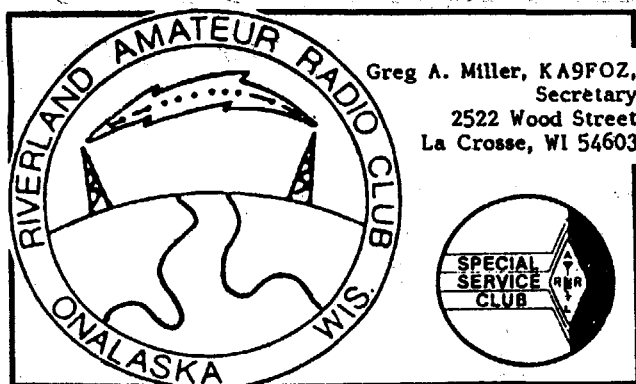
SWAGUR ENTERPRISES

J. S. GURSKE, Pres.

Wis. Distr. for Rust Evader Corp.

7240 Highway Y
Lodi, WI 53555

(608)592-5541



Greg A. Miller, KA9FOZ,
Secretary
2522 Wood Street
La Crosse, WI 54603

On September 6, 1988, President Craig Goldbeck called the regular monthly meeting of the Riverland Amateur Radio Club to order. The time was 7:30 p.m.

The reading of the July minutes were approved as read from the Badger State Smoke Signals. The Treasurer's report was approved.

Van, WA9FIO, gave a brief 37/97 report. There was nothing to report as far as the performance of the repeater was concerned. The general discussion centered around the study of which repeater to purchase. Van gave the following questions that must be answered before the purchase:

1. Should the repeater be local or La Crescent as far as the ability to reach the La Crosse 911 system?
2. Should it even have phone patch capability?
3. Is the system to be purchased going to be reliable enough?

It was decided that there were more answers to be looked into. He also noted that the prices that were handed out recently were up to 2 years old, and that new, up to date prices must be obtained before a decision can be made. A further study will be done and a report given before the end of the year.

Rick, KV9U, mentioned that the next exam session will be some time in December. The local interest in taking exams seems to be low and that the current rate at which we hold exams takes care of it.

Craig, N9ETD, mentioned that help was needed for the Swapfest on Sept. 17 at the Community Center. The Swapfest will be held on a small scale again this year. Start time is 8:00 a.m.; tables are free, with admission at \$1.50.

OLD BUSINESS

There was a brief mention of the total points that our club accumulated at Field Day. Watch for the November QST for where we placed.

NEW BUSINESS

A motion was made and seconded that we order more club patches. The motion was passed. The order will go in in the next few weeks, after a quote is received as to the prices.

At the October meeting, the rules will be discussed as to the Riverland Amateur Radio Club QSO Party that is being planned.

Total members present was 25. Meeting was adjourned at 8:00 p.m.

Respectfully submitted:
Greg A. Miller, Sec./Treas. RARC

PRESIDENT'S GAVEL

I hope that since it's getting toward winter, we will see a jump in attendance at the meetings. We have been getting about 22 or so average, but I know we can do better. There have been a few new people showing up, and it would be nice for them to get to know more of you a little better. Club meetings don't have to be boring, 3 hour sessions that try your patience. If you haven't been out to a meeting for a while, come on out and see us sometime.

Our Swapfest is Saturday, Sept. 17; it starts at 8:00 a.m. Stop on down and see what's cookin' with the area Hams.

In October, the club will sponsor an activity to promote the idea of club members getting to know each other. It is a contest, but not a high pressure contest like Field Day or even the Wisconsin QSO Party. We are calling it the Riverland A.R.C. Activity Party, and once again we are stressing the fact that it's designed to get us on the air as a club to get to know each other. The following are the rules for the contest:

RIVERLAND A.R.C. ACTIVITY PARTY

DATE/TIME: Oct. 22, 1988 - 3 - 5 p.m. and 7 - 9 p.m.

MODES: Any legal two way QSO (repeater contacts are encouraged.)

CLASS: Single operator and multi-operator. No limit on number of transmitters.

EXCHANGE: Call and club status (member or not) as printed in the official club roster passed out at the September meeting.

FREQUENCIES:

CW: 50 Kc up from the bottom of the band.

SSB: 30 Kc up from the bottom of the General portion, except on 10 meters, where the frequency will be 28.420.

NOVICE CW: 30 Kc up from the bottom.

SCORING: All QSOs count as 1 point. Each station may be worked once per mode per band.

MULTIPLIERS: Multiply the number of QSOs by the number of club members worked per band. Any station can be worked, not just club stations. Non-club stations may also participate.

SAMPLE EXCHANGE: "NØBSH, this is N9ETD. I'm a Riverland ARC member." "Roger, I am also. Thank you and good luck. N9ETD from NØBSH."

SAMPLE SCORE: N9ETD works 100 QSOs and 35 members on 80 meters, and 45 members on 40 meters. The score would equal $100 \times 80 = 8000$ points.

LOGS: Logs must contain call of station worked, club member or not, band, mode, and time. Dupe sheets aren't required, but may be used. Send logs by Nov. 5 to Craig Goldbeck, N3070 Smith Valley Road, La Crosse, WI 54601.

AWARD: Results will be printed in Riverland section in December.

73 'til next month
Craig

MEMBERS PRESENT

Bill Wood	WB9VYI
Duane Fruechte	W9HWQ
Rick Williams	KV9U
Charles Ferries	W9TCW
Ernie Gershon	K9ZVU
Greg Miller	KA9FOZ
Craig Goldbeck	N9ETD
Art Osborn	WØJDC
Al Reinholz	N9FZE
George Kroner	KA9HOP
Glenn Whitlock	NØBBW
Mike Tessmer	NØBSH
Van Elston	WA9FIO
Charlie Burch	KA9UUK
Herman Ludvik	W9HJV
Bill Winder	K9EGQ
Ron Reed	KD9OY
Jack Yoshizumi	W9KTD
Dallas Miller	K9LEC
Ray Wakeen	WA9HHM
L. A. Knutson	W9SFL
Karl Olberg	W4ST
Phil Ueling	W9UP
Walter Altus	WD9GCR
Gary Webb	N19V

GUEST PRESENT

Jerry Stempinski KA9WWC

State of the Art Electronic Publishing

R L Kosh Company

Product Manuals - Technical Writing - Resume's
Corporate & Club Newsletters - Hamfest Flyers

Call Today!



Laser Printing

(414) 563-5666

9:00 AM to 8:00 PM



PORTAGE, WI

For serious contesting**24 towers****WØAIH: Wisconsin SuperStation**

Photos and story by Gene Santoski, K9UTQ
1220 18th Street South, Wisconsin Rapids, WI 54494

When we see pictures of, or read about, Amateur Radio's Superstations, they usually are located far away in some other part of the country (i.e., East or West Coast). Well, many of you are probably not aware that we have a Superstation right here in Wisconsin. It belongs to Paul Bittner, WØAIH, of Eau Claire.

About 7 or 8 years ago, Paul, being a great competitor in weekend contests, decided it was time to put together a contest station second to none.

He sought and found an ideal location in the hilly countryside of west-central Wisconsin, and began planting towers. Since that time, his antenna farm has grown immensely! He now has 24 towers, 7 of which are 200 feet high, and the rest are 95 feet or higher. The towers either sport stacked Yagis or support several wire antennas; some of the towers are used as phased verticals. He also has six 1,080 foot and one 1,800 foot beverage antennas, which are a full wave on 160 meters!

Paul plans to add a couple of 3-element bobtails and another 40 meter beam.

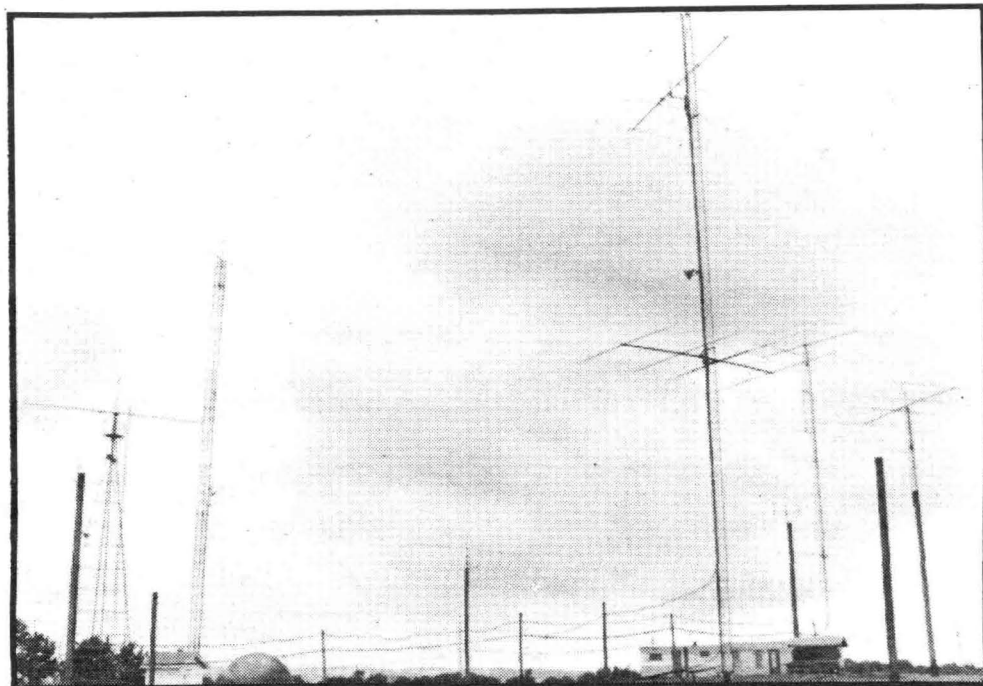
The equipment at the station consists mostly of older tube-type gear, such as several Collins S-Lines, Drake Twins, and even a 75A4. There is also a six-foot rack, which contains separate amplifiers for each band from 80 through 10 meters! Paul likes the older equipment, as "it is much easier to work on when servicing is necessary."

The station is used for CW contests only. Paul has stated that he is always looking for "good, proven, competent contest operators" to help man his station on CW contest weekends. Paul says that if anyone is interested in helping operate or log at the station on contest weekends, contact him at 715/832-8510. But remember, he wants experienced CW contest operators.

By the way, Paul has quite a collection of Amateur Radio license plates attached to the side of a shed at the station site. If you ever decide to visit, bring an old plate along and add it to the collection.

Good contesting, Paul!

(If anyone knows of other Superstations in Wisconsin, let me know, and I will visit them and take some photos. - K9UTQ)



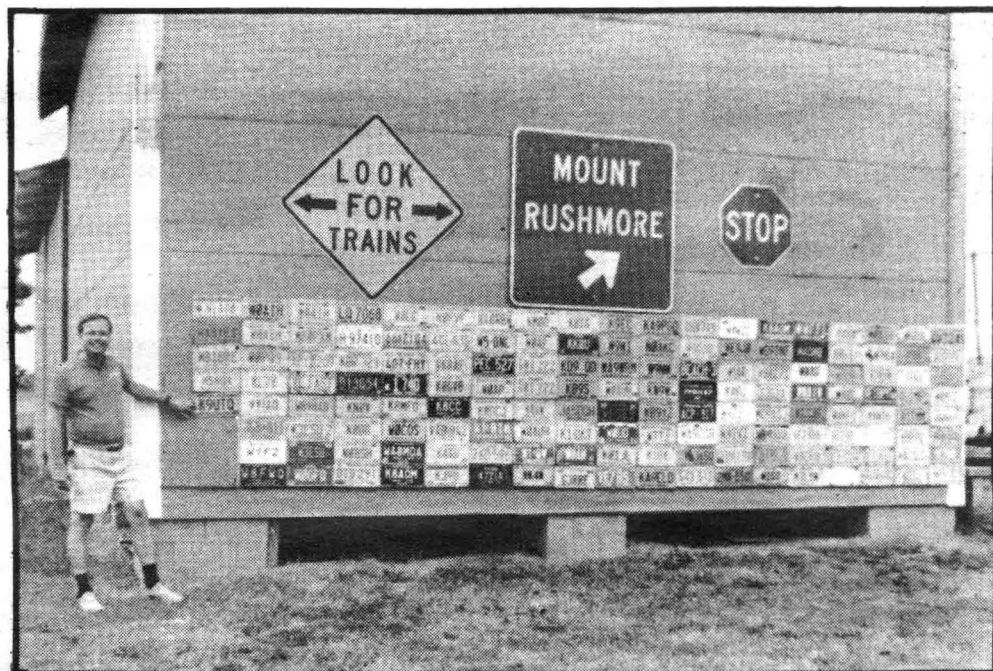
This is another view of some of the 24 towers at WØAIH. Note feedline and cable suspended on poles.



These are the antenna tuning and matching setups at WØAIH.



This photo shows some of the station equipment at WØAIH. Gear made by Collins, Drake, Heath, and others is visible. The amplifier rack is at the right.



The author, Gene Santoski, K9UTQ, is shown with WØAIH's collection of old license plates. Most are Amateur call sign plates; if you visit Paul, bring some to add to the collection!

Sunken Ships and Raised Antennas

By Nancy Vander Velde, AA6EA
940 Arbolado Road, Santa Barbara, CA 93103

NUMBER 3 IN A SERIES FROM MICRONESIA

To most people, if the name "Truk" means anything, it means the place where a fleet of Japanese warships was laid to rest during World War II. To scuba divers in particular, the terms "Truk Lagoon" and "wreck diving" are practically synonymous, and each year hundreds come to explore these submerged relics firsthand.

But sunken ships are only a small aspect of what the Truk Lagoon is all about. Geologically, the lagoon is a delightful treat, as it is one of the few places on earth where a sinking volcano system and its coral atoll can be seen together, creating one of the largest barrier reefs in existence. Then there are the almost atolls and reef islands outside the lagoon itself. Here, a Micronesian life-style quite unaffected by Western influence prevails. Men still know the ancient navigational skills and are attired in the native loincloth, or "thu".

To try to see all of these aspects of Truk would be a monumental task for any one person. The main way most of the islands are kept in contact with the District Center of Moen Island is by boats and copra ships. Yet, this District Center is also where Continental Airlines flies its 727s and foreign visitors stay. So an American tourist can easily find himself riding in the back of a pick-up style taxi along with a loinclothed Western Islander.

Moen is also the center of electronic communication for Truk. Not far from the International Airport stands the radio station, WS-CZ (1593 KHz), short-wave antennas, and the Satellite Communication Center. But, as is often the case for Truk, these modern setups are not nearly as impressive as the old Japanese ones. On a hill far from the downtown section of Moen stands what it now Xavier's High School. The main school structure is the former Japanese Communications Building - an impressive sight in itself! Thick, fortified concrete walls with steel window shutters - there is good reason the building withstood the American bombings and various subsequent typhoons. Even the most dedicated amateur radio operator has never dreamed of a "shack" like that.

The Trukese on Moen are not in the stone age so far as electronic interests are concerned. Direct television viewing has succumbed to a profusion of video cassettes, and video rental stores can be seen all over. However, what is also seen all over - and appears to be growing in popularity - are vertical HF antennas. Yes, to hams from other parts of the world, "CB Radio" may be a foul word, but in Truk, it has the potential to be a useful tool. With



telephones not being available to even all who desire them on Moen itself, much less on the outer islands, the practicality of a Citizens' Band setup is quite apparent. A person may live where there isn't even a car, but with an inexpensive radio, he can keep in touch.

This is not to say that Truk is devoid of Amateur Radio. Some dedicated and long-term operators live on Moen. Their raised 3-element beam antennas tower high above the much larger number of CB antennas.

How many of those now enthralled by the simpler style radio will progress to Ham Radio, only time will tell. Truk, even with all of its war wrecks, is anything but stagnant, and communication is playing a more and more important part in its future. Scuba divers may continue thinking that all there is to the Truk State in the Federated States of Micronesia is a bunch of sunken ships, yet for amateur radio operators who have the chance to contact the raised antennas of resident Truk hams, they will have opportunity to learn about caves and tunnels, birds and bats.... and much, much more.

Ran Annim o Fik-me-unungat

(Good day and seventy-three)



Chicago QCWA Delegation Visits Wisconsin

When Wisconsin Chapter 55 of the Quarter Century Wireless Association (QCWA) held its spring dinner on May 23, 1988, several visitors from Chicago joined in the festivities. Shown here, left to right, are: Fred (W9NZF) and Louise Linn, Cedarburg; Marion and Travis (W9VQD) Baird, Milwaukee; Helena and Herb (WA9UVK) Roehner, Grafton; Sylvia Erickson (wife of photographer KA9DYS), Chicago; and Jerri and Ed (W9HPW) Kelly, Chicago. Ed is president of QCWA Chicago Chapter 2.

Wisconsin Chapter 55 will hold its next meeting October 1, with lunch and an auction, at the Oakwood Inn, 1040 W. Fulton St., in Waupaca. Visitors are welcome. - Photo by Ero Erickson, KA9DYS

Eau Claire Amateur Radio Club

Bob Fallis, W9BAR,
Secretary
1851 McKinley Road
Eau Claire, WI 54703

President Jerry Marx, NG9A, called the meeting to order at 7:30 p.m. Tuesday, September 13. Fifteen members were present.

The minutes of the last meeting were read and approved. The treasurer's report was read and approved.

A report on the picnic was given. There were approximately thirty people present. There was ample food and a good time was had by all.

Jerry Marx, NG9A, has contacted Pat McNally of the county comm center on the question of orange safety vests. Pat will get back to Jerry on his request for safety vests. The comm center has requested we furnish another person to be in another room in case of an emergency.

A report on the trailer progress and needs was given by Darold, N9FLK. We need someone to install our furnace and move the stack over, also to hook up gas and light it. We need to paint the roof, clean the trailer inside and out, put brackets on for antennas, install electrical wiring and outlets, install carpeting, and do lettering on the trailer. This work can be done at any time or on any day. The Trailer Committee meets every Tuesday at 6:30 at Darold, N9FLK, on Mondovi Road.

Don, K9UXP, requested the secretary find out the date of the Milwaukee Hamfest in 1989. Our club would like to schedule our hamfest date to not conflict with theirs.

The president requested information on programs for future meetings from club members. If you can help with this, please contact Jerry, NG9A.

A motion was made and seconded to order the Board of Directors to examine the dues structure and report their suggestions at the November meeting. It was suggested we have only one fee for dues for Technician and higher. This would eliminate separate club and repeater dues. Don, K9UXP, suggested we have a member attend the Repeater Association's meetings. If interested, contact Don.

The exam date is Saturday, October 15, at the same location.

Lunch Committee is Don, W9NFJ; Gordy, N9FLN, and Lowell, W9MEO.

Meeting adjourned at 8:40 p.m.

Acting Secretary

Darold, N9FLK



SSB

SELL SWAP BUY

OUR WANT ADS GET RESULTS

FOR SALE: Koala pad for Radio Shack computer. Set of 8 memory chips for Radio Shack Model 4 computer. Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913. 608/356-4249.

There is no charge for listing ads in Sell, Swap or Buy. Send them to Ken Ebner, K9EN, 822 Wauona Tr., Portage WI 53901.



OUR PARTS FIX BIG PROBLEMS

\$\$\$\$ SUPER SAVINGS \$\$\$\$

IC Chips, Coax Connectors, LED's
Switches, Speakers, Cables, Capacitors, Mic Connectors, Microwave, Crystals, Diodes, Bridges, Pots, Resistors, Telephone, Project Boxes, Plugs, Jacks, Transistors, Regulators, Power Supplies, MOV's, ETC, ETC, ETC.....

GET ON
OUR
MAILING LIST

SEND SELF ADDRESSED STAMPED
ENVELOPE FOR 40 PAGE CATALOG

BCD ELECTRO

PO BOX 830119 RICHARDSON, TX
75083-0119

OR CALL (214) 343-1770

Standard Communications

Mobile Phones, 2-Way Radios, and Pagers

KLINKNER ELECTRONICS

William G. Klinkner

248 Monroe Street Sauk City, WI 53583
Phone (608) 643-6908

KMRA HAMFEST '88

SUNDAY, OCTOBER 30TH, 1988

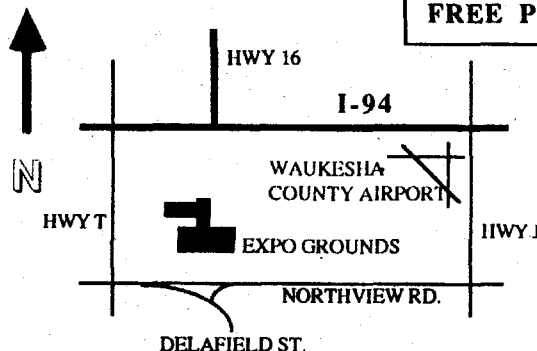
WAUKESHA EXPO CENTER
FORUM BUILDING
HIGHWAYS J & FT

ALL INDOORS-RAIN OR SHINE

EASY ENTRY-NO STAIRS

Doors open at 7 am for sellers and 8 am for general public!

PLENTY OF
FREE PARKING!



PRICES

\$2.50 ADVANCE ADMISSION
\$3.00 AT THE DOOR
\$4.00 per 4 FT. of RESERVED TABLE
\$4.00 per 4 FT. TABLE AT THE DOOR

RESERVATIONS
ACCEPTED "TILL
OCT. 15TH

ALL ORDERS MUST HAVE AN S.A.S.E.
OR THE ORDER WILL BE HELD AT THE DOOR!

Return to: KMRA
313 HILLVIEW CIRCLE
WAUKESHA, WI 53188

PLEASE SEND THE FOLLOWING TICKETS:

ADMISSION TICKETS @ \$2.50 EACH

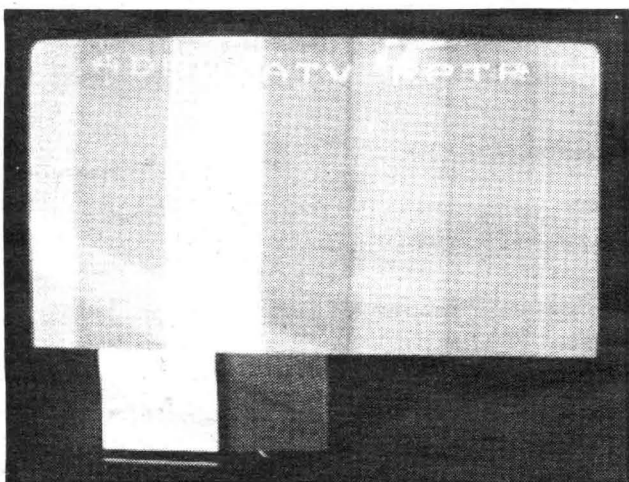
TABLE RESERVATIONS @ \$4.00 EACH

NAME _____
STREET _____
CITY _____ STATE _____ ZIP _____

Repeater Profiles



By John W. Frank, WB9TQG
P. O. Box 5113
Madison, WI 53705



ATV IN WAUSAU

Some repeaters I've seen are expensive and high-tech; others are built around cast-off business band equipment. However, the AD9W amateur television repeater in Wausau is something any amateur could be proud of.

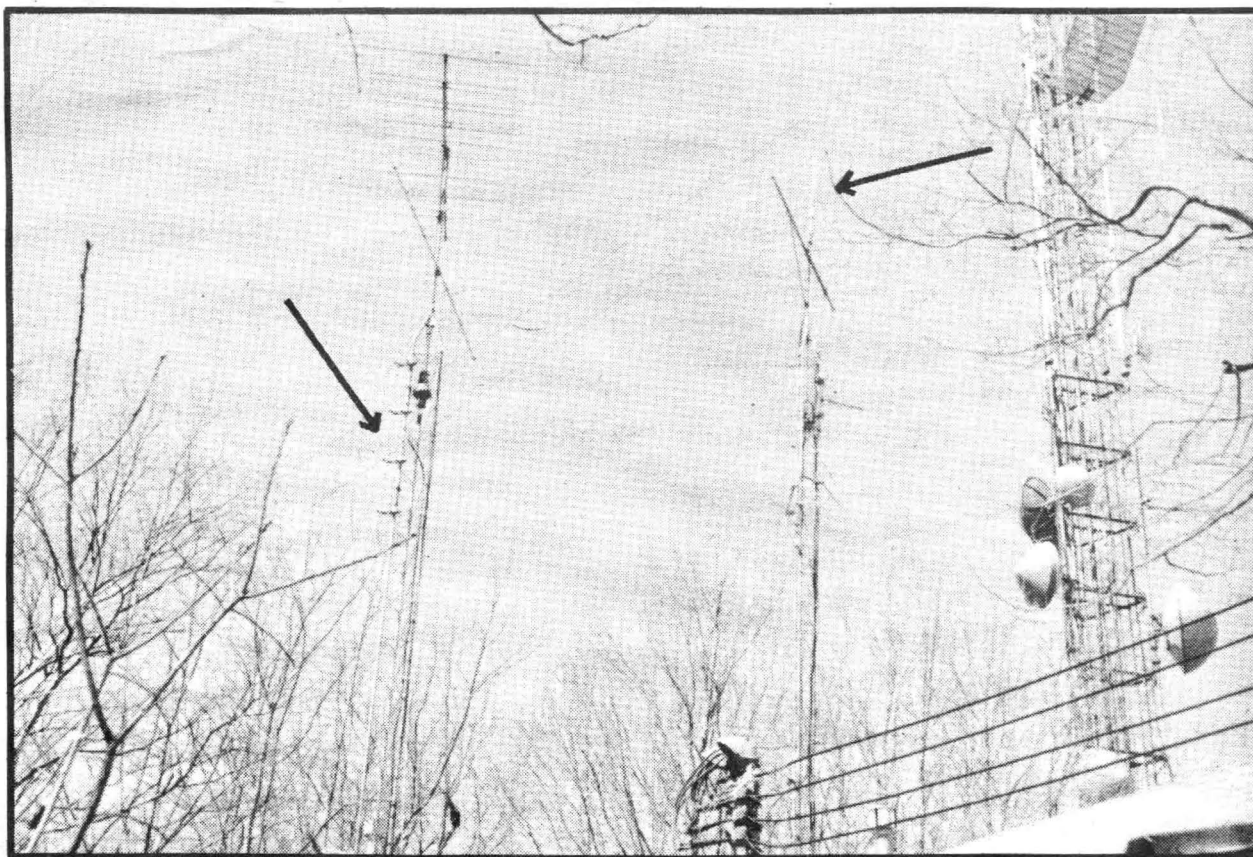
Instead of going out and buying a repeater, Dean Andrewjeski (AD9W) homebrewed much of this repeater himself. The receiver is homebrewed from commercial designs. The transmitter is a 10-watt unit from PC Electronics. In order to come up with high-quality duplexers at a reasonable cost, Dean took a machine shop course at the local Vo-Tech school and made his own duplexers.

Although the Isopole receive antenna and Cushcraft transmit antenna are only about 50 feet above ground, their coverage is still quite impressive because the ground they are on is on top of Rib Mountain. With a height above average terrain of about 700 feet and an offset pattern (9 dB south, 4 dB north, 6 dB east and west) on the transmit antenna, this repeater has a range of about 20 miles.

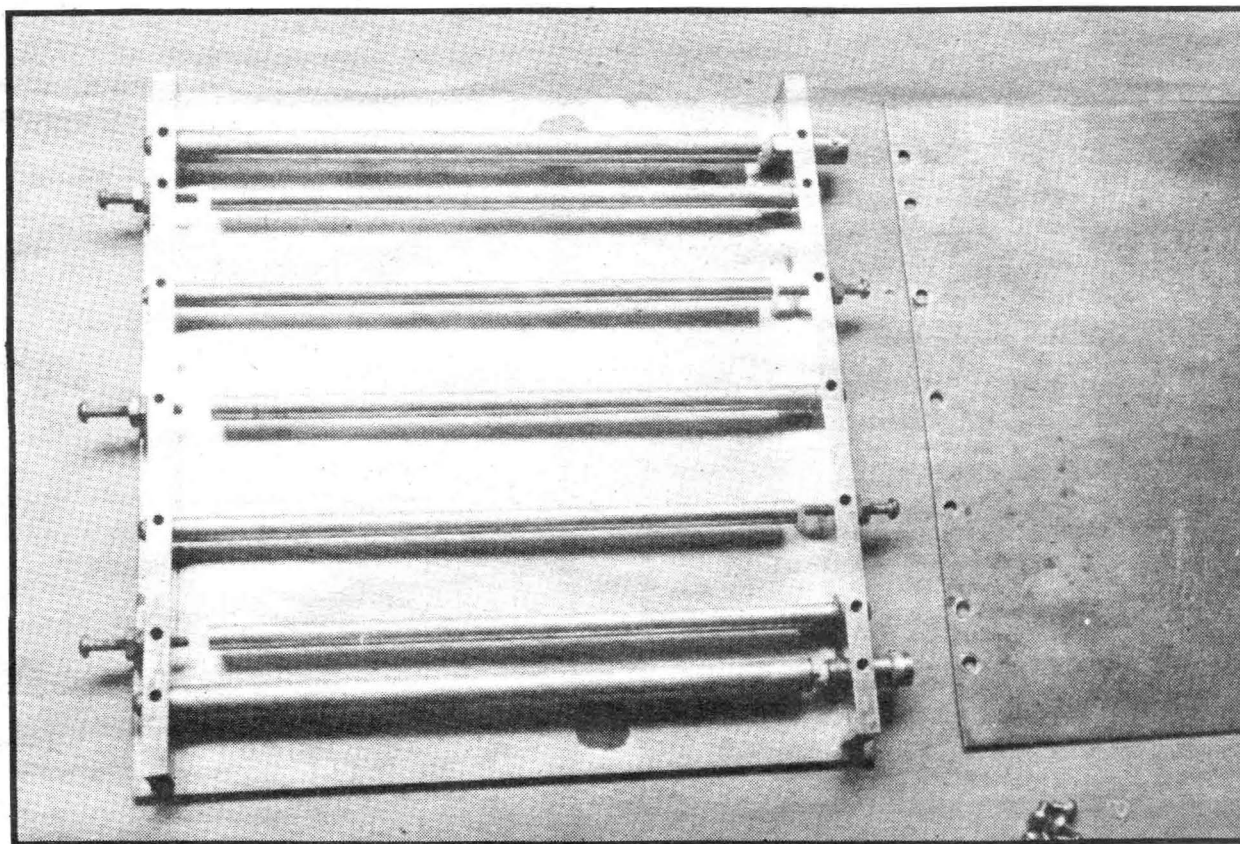
The AD9W ATV repeater uses an input frequency of 439.25 MHz and an output frequency of 421.25 MHz. The audio input carrier frequency must be 4.5 MHz below the video input and the audio output carrier frequency is 4.5 MHz above the carrier frequency. The repeater won't work with audio signals alone because it relies on the horizontal synchronization pulses in the video signal for proper keying.

For more information about this repeater, contact Dean Andrewjeski, AD9W.

AUTHOR'S NOTE: This repeater profile was originally planned for the July 1988



The antennas for the AD9W Amateur television repeater at Wausau are on these towers. The transmitting antenna is on the tower at left; the receiving antenna is on the tower at right. The locations of the antennas are indicated by the arrows.



The homebrew duplexer for the AD9W ATV repeater is shown here. It was built by the repeater's owner, Dean Andrewjeski.

issue of Badger State Smoke Signals. However, it was delayed because of some minor health problems on my part. Last May, during a very routine trip to the doctor, a lump was discovered in my chest. I can still remember the doctor looking very serious and saying, "Men get breast cancer too, you know." This story has a happy ending. A surgeon removed the lump in June. It was not cancerous, and although the surgery and recovery slowed me down

for a few weeks, it was quite a load off my mind just to know I didn't have cancer. From my point of view, the moral of this story is that everyone should know the warning signs of cancer.

If you have any symptoms, get them checked out as soon as possible.

According to my doctor, the six most dangerous words in the English language

(Continued on next page)

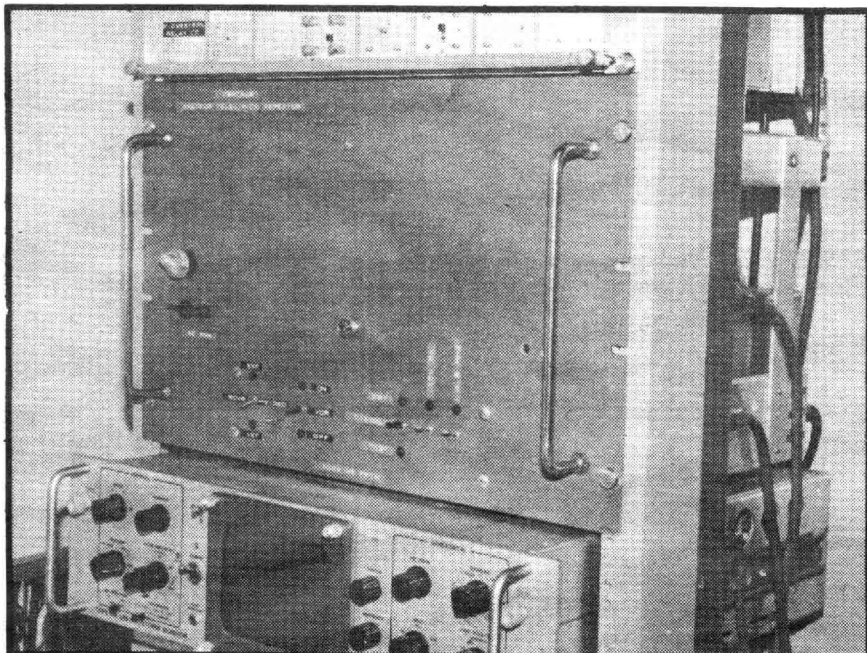
REPEATER PROFILES — Continued from page 10

are, "It will go away by itself."

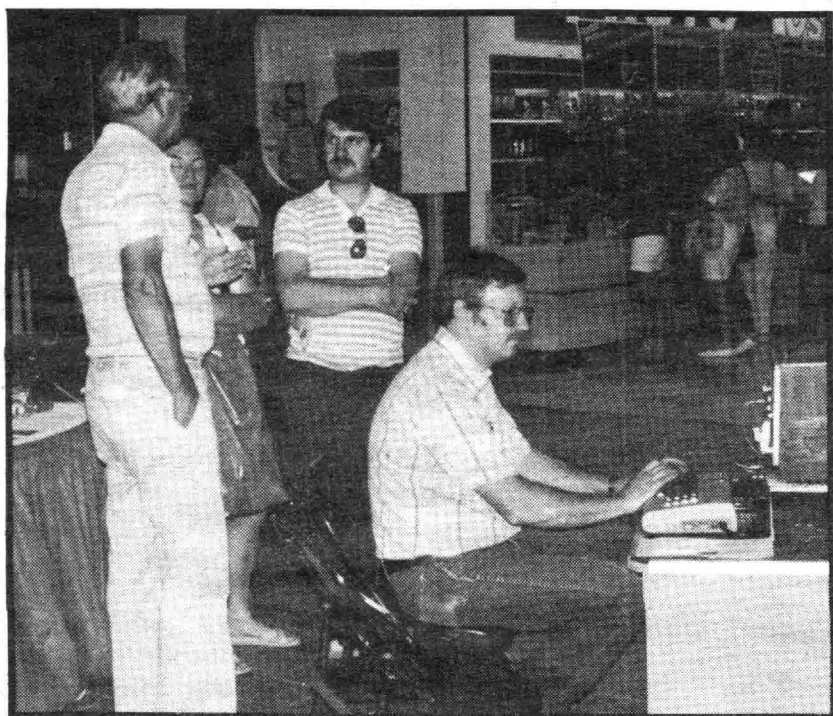
73, John,
WB9TQG

P.S. The surgeon says the scar will make me look like "Rambo," whatever that means.

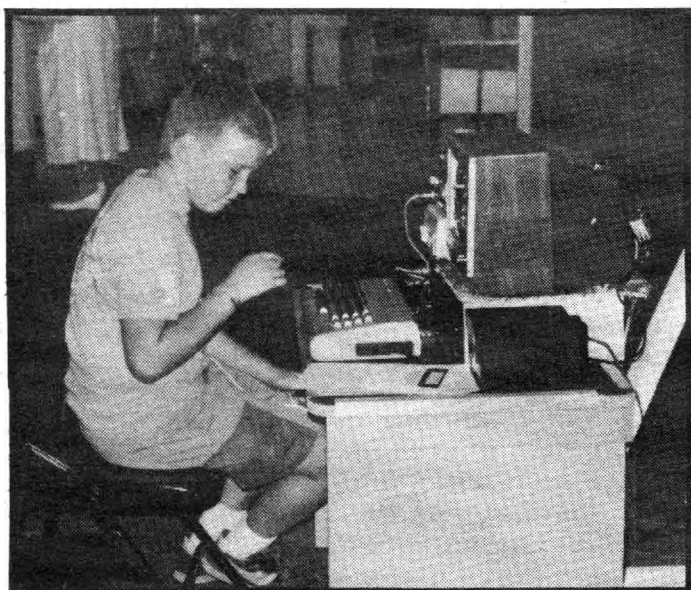
The AD9W ATV repeater is shown in the photo at right.



Riverland Does a Demo



At the Riverland ARC Amateur Radio demonstration at Valley View Mall, Dick Low, KØJYB (left) talks to two interested people. That's Greg Miller, KA9FOZ, at the packet radio keyboard.



An interested youngster tries his hand (fingers, actually) at the packet keyboard.

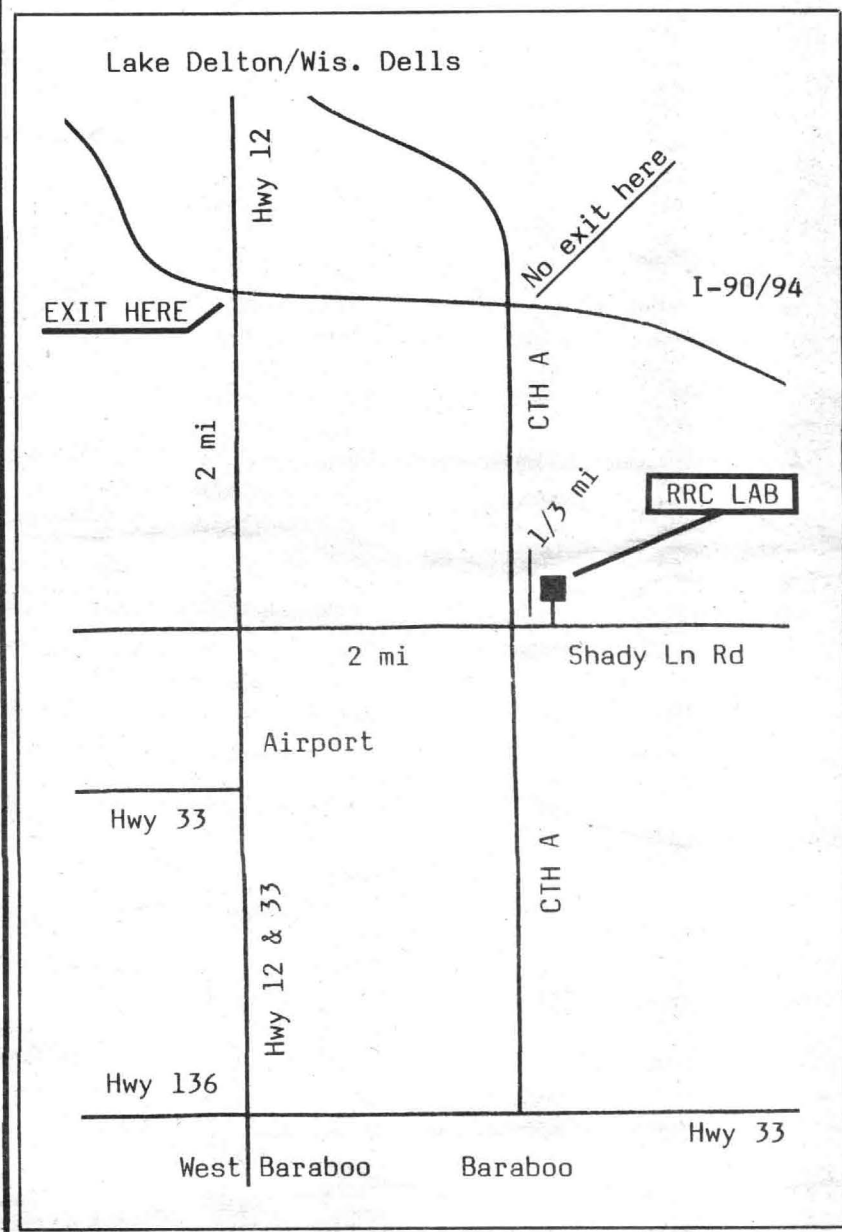
On June 25 and 26, 1988, members of the Riverland Amateur Radio Club of La Crosse / Onalaska demonstrated Amateur Radio to the public in Valley View Mall. An HF transceiver and a working packet station were on display, as were QSL cards and handouts for the public. The video "The New World of Amateur Radio" was shown continuously, and attracted a large number of viewers.

Forsaking at least part of their Field Day weekend to help with the demonstration were Dick Low, KØJYB and Greg A. Miller, KA9FOZ (Riverland Amateur Radio Club Secretary and Wisconsin Affiliated Club Coordinator). The display was staffed for two full days. Greg estimates that at least 100 people stopped at the display to ask questions and get more information, and says he has received several telephone calls from people asking for information about the club.

— Photos by Glenn Whitlock, NØBBW

Sparks to Fly at Open House

Resonance Research Corporation will have an open house and Halloween Party on Saturday, October 29, 1988, at 7:00 p.m. at its lab between Baraboo and Lake Delton on Shady Lane Road just east of County Trunk Highway A. RRC manufactures large, multi-Megavolt Tesla coils, Van de Graaf generators, plasma tubes, and numerous other devices. Most of these, including a large Tesla coil capable of generating 15 million volts or more. Audience participation is a part of the show. Please be certain to sign the guest register!! The RRC lab's location is shown on the map below. Please note that not all roads are shown. Many Amateurs from around Wisconsin and surrounding area attended last year. If you missed the show, you are encouraged to attend. D.C. Cox, owner of RRC, says "costumes optional - come as a Ham Operator." There is no charge.



BSSS Club Deal

Badger State Smoke Signals can serve your club's members as your club's newspaper - and it doesn't have to be a Wisconsin club. The cost to your club is as little as \$4.80 per member per year; that's as low as 40 cents per member per month. Your club's minutes will be published monthly, as well as other items of interest which you submit, including photos. And, you also get all the other news and information carried in this paper every month. Up to 15 percent additional mailings will be made for your club at no additional charge; these issues can be sent to political and community leaders and to prospective members. For full information, contact Ken Ebner, K9EN, 822 Wauona Trail, Portage, WI 53901, or call Ken at 608/742-3560. Come aboard!

New Products



MFJ-109 WORLD TIME CLOCK

MFJ Enterprises, Inc. announces the release of the new MFJ-109 World Time Clock.

Priced at \$18.95, the new clock features a sliding indicator you can set to any of 24 international cities. It has a 24 hour world time display and a local time display. The LCD display has 3/8" digits.

The clock also has a Greenwich Mean Time (GMT) pointer for instant access to the international standard.

Other features include alarm with snooze, night light, adjustment for daylight saving time, date change indicator, suede-like carrying case, and flip stand in an attractive gift box.

The clock comes with MFJ's one year unconditional guarantee.

The new MFJ-109 World Time Clock is available from MFJ dealers or direct from MFJ Enterprises, Inc.

For information, contact MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762, or call (601) 323-5869. Orders may be called to (800) 647-1800.

(MFJ Enterprises news release)

ATTENTION VOLUNTEER EXAMINERS

Badger State Smoke Signals would like to publish the names, calls and cities of those who are successful candidates at your examination sessions! Please send information to Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913.

Identify yourself

with our custom engraved call pins

1 line 1"x3"\$1.00
2 lines 1"x3"\$1.25
3 lines 1 1/2"x3".....\$1.75

DAVE W2CFP
TOMPKINS CO. AR C

Any color • (Add 20¢ per tag for postage.)

Logos for MARS, ARRL, CD, most Lodges, OH, IN, IL, MI, PA, SMIRK, can be engraved on badges for \$.75 extra per badge. Special logos can be made at a reasonable cost; write for quotations.

We have the Wisconsin state outline

FALLERT'S ENGRAVING
27 Verlynn Ave. • Hamilton, OH 45013

SET Oct. 15-16

To test traffic handling capabilities, and local emergency plans in simulated emergency conditions, the Amateur Radio Emergency Service (ARES) and National Traffic System (NTS) will conduct exercises across the nation October 15-16. The Simulated Emergency Test (SET) weekend provides an opportunity for ARES units to test plans, and capabilities of moving emergency and health-and-welfare traffic into and out of disaster areas via the National Traffic System.

SPECIFIC PURPOSES OF SET INCLUDE:

1. To find the strengths and weaknesses of the Amateur Radio Emergency Service (ARES), National Traffic System (NTS), Radio Amateur Emergency Service (RACES) and other groups in providing emergency communications.

2. To provide a public demonstration - to served agencies such as Red Cross, National Weather Service, Civil Preparedness, and Salvation Army, and through the news media - of the value to the public that Amateur Radio provides, particularly in time of need.

3. To help Radio Amateurs gain experience in communications using standard procedures and a variety of modes under simulated emergency conditions.

The scoring format reflects these broad objectives and encourages greater use of digital modes for handling high-volume traffic and point-to-point Welfare reports out of the affected simulated-disaster area. There is opportunity to strengthen the VHF-HF link at the local level, thereby ensuring that ARES and NTS are working in concert. There's also opportunity to give all levels of NTS the chance to handle exercise-related traffic. Points are also awarded for tactical traffic passed on behalf of served agencies.

Although October 15-16 is the official SET weekend, groups are free to conduct their SETs anytime between September 1 and November 30 if an alternative date is preferred. The activity period should not exceed 48 hours. The deadline for receipt of all reports is January 31, 1989. A complete array of reporting forms will be sent by ARRL Headquarters to affected appointees.

(From the ARRL Section Leader)

Scherschel Camera Shop

EVERYTHING PHOTOGRAPHIC

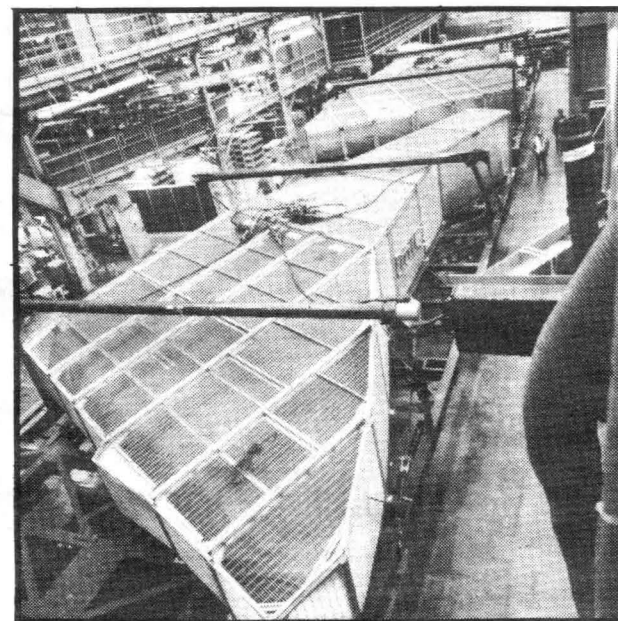


129 FOURTH STREET
BARABOO, WI 53913
(608)356-9165

When in the Baraboo-Dells-Devils Lake area,
stop in for all your photo supplies and quality processing.



HERE and THERE



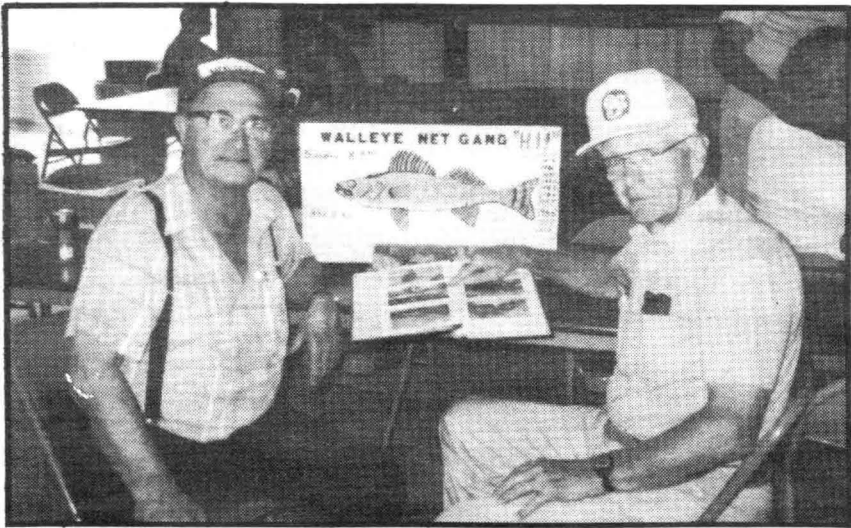
WINGING IT: A new space shuttle is under construction at Rockwell International to replace the one lost when Challenger exploded in January, 1986. In this NASA photo are the wings; the right wing is in the foreground, the left in the background. The new spacecraft is known simply as "Orbiter 105"; it has not yet been named.

SCOT HERRICK, NB9C, Madison, has been released from the familiar environs of his hospital room, and is continuing his recuperation at home from his Field Day fall; he is now ambulatory with crutches.

CALL FOR VOLUNTEER COUNSELS: Your legal expertise is needed in the Amateur Radio Community to help build and maintain the legal foundations for our service. The ARRL's Volunteer Counsel (VC) Program is designed to help stem the tide of overly restrictive local ordinances pertaining to Amateur Radio. You can help if you have an interest in this exciting area of communications law, are a member of a state bar, and if you're a League member. Please contact us and you will be kept informed about areas of law affecting Amateur Radio. As a Volunteer Counsel, you are not expected to provide your services free of charge after an initial consultation. For further information, write to the ARRL Volunteer Counsel Program, 225 Main Street, Newington, CT 06111. (From The ARRL Letter)

THE MARA 75/15 REPEATER HAS MOVED to a new location; actually, it's an old location. The new site is at the 720 foot level of the WMTV (Channel 15) tower on Madison's southwest side. The antenna is on the south side of the tower; there is currently a deep null from northwest to northeast. Plans are to move the antenna to the east side of the tower. The MARA 16/76 machine was at WMTV until a few years ago; it's now at University Hospital on the west side. The 75/15 machine had been on the Tenney Building on the capitol square, but coverage was very limited.

Pie-eyed Walleyes - with Cheesecake



At the South Milwaukee Swapfest in July, Norm Eslinger, Naperville, IL, and Bill Lewis, K9AJF, Oshkosh, make plans for the 1989 Walleye Net eyeball meeting.



THE THREE FOXES at the Walleye Net get-together: Ole Fox, K9AKG, Racine, WI; Jon Fox, W9LXY, Racine, WI; and Bernie Fox, W9MNX, Fort Atkinson, WI. While their last names are the same, they are all unrelated.



Cheryl Miller, KA9TPH, Racine, samples cheesecake at the Walleye Net meeting.

Another eyeball meeting of the Walleye Net gang at the Oak Creek Swapfest has come and gone, and what a nice meeting it was.

Several new members joined us to sample the cheesecake bakeoff between Bernie, W9MNX, and our good friend Norm, W9VST. Both were very good; however, Bernie was chosen the cheesecake king. Bill, W9OVZ, made one of his favorite apple pies, and some were fortunate enough to get a sample of it.

Some may wonder how the Walleye Net gang came about. A few years ago, Bill, K9AJF, moved from Racine to Neenah, and the only way to keep in touch was to get on 75 meters on Sunday morning and chat. Ole, K9AKG, and Bill thought it would be

nice to have others join us; about a dozen or so did just that, getting together Sundays at 1300Z on about 3.924 MHz.

We meet in person once a year at the very fine swapfest in South Milwaukee, where they have a good restaurant at one end of a large shelter, and a fine bar at the other end. The bar end is where we usually have Walleye fish on one of the many tables. (Don't ask me why we chose the bar end; you guess.)

Drop over at the fish table and enjoy a sample of the pie or whatever. See you next year??

- Ole Fox, K9AKG
1808 Johnson Avenue
Racine, WI 53402

220 Lawsuit

Shortly after hearing about the FCC's decision to reallocate 220-222 MHz to land mobile services, attorney Robert B. Cherry, K2HBX, said he would be filing a class-action suit against the FCC.

To this end, he has opened a bank account to start and accumulate a 220 Defense Fund. Those who would like to support this action may send their checks to: Robert B. Cherry, Esq., Trustee, 220 Defense Fund, P.O. Box 476, Totowa, NJ 07512.

Cherry is recording secretary of the Splitrock ARA, and at its August meeting, he informed the members that - in his opinion - the manner in which the FCC went about this whole thing was blatantly illegal.

(K2HBX also serves as legal counsel for the ARRL.)

- From Worldradio

IT'S IMPORTANT! When submitting photos to Badger State Smoke Signals for publication, please include: (1) first names, (2) last names, (3) call signs (if any), and (4) cities of ALL people in the picture(s). Thank you!



YOU'D THINK THAT WITH ALL OF ABDUL'S OIL, HE COULD DO A LITTLE BETTER THAN A MAG MOUNT!

Builders - See Us!

Largest Selection Of
Stuff in Wisconsin.

- CUSTOM COMPUTER CABLES
- TEST EQUIPMENT

More Than 100 Years of
Electronics Experience!

Schrenk Electronic Sales Co.

1900 BELD ST. - P.O. BOX 9868
MADISON, WI. 53715-0868
608-255-7400

Correspondence

From Our Readers

To the editor:

On July 6, 1988, I was the Base Support Operator for the Second Annual Trans-America Bicycle Trek across the United States. I did it in 1987 also. I would like to say that these three hundred plus Trekkers are some very nice people to meet.

I enjoy working with people like this. It makes a person feel good to help out in this sort of thing.

I urge everyone to help out in events like these, because I believe that there is a lot of satisfaction in doing things to help others. I am planning to help out next year and many others years to come.

As a Base Support Operator, I felt as if I were riding along with these people as they were coming into our area.

I would like to see other Ham operators help with the Trans-America Bike Trek each year. This is very important because we, as Base Support Operators are sort of a security blanket for the Trekkers. Without us being there for them to call on when they need help of some sort, they could be stranded for some time. As Base Support Operators, we help the Trekkers maintain communications between them and the staff members and Radio Amateurs who follow them in autos. We are the link with the people who can give them additional assistance that we cannot.

Anyone who would like more information or who has questions, please contact me. Hopefully, next year there will be more Hams helping out with the Third Annual Trans-America Bicycle Trek across the U.S.A.

In closing, I would like to say "thanks" to all the Hams who did help this year.

73,

- Les Hyland, KA9USV
719 W. St. Paul Avenue
Waukesha, WI 53188
(414) 547-2926

Wisconsin's Wheels to Meals

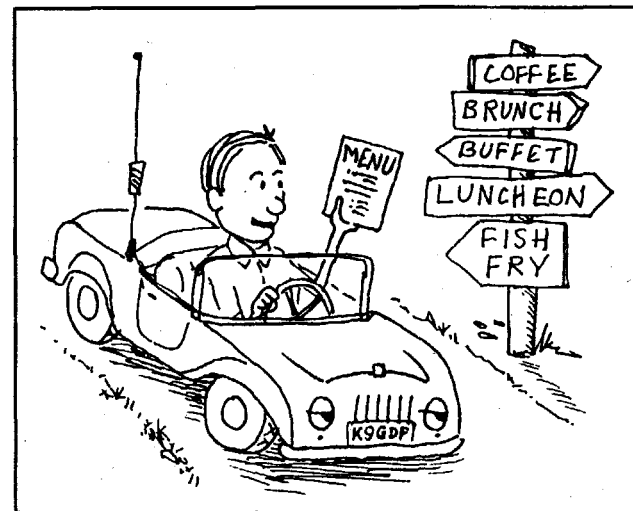
By Richard R. Regent, K9GDF
5003 South 26th Street, Milwaukee, WI 53221

An increasing number of Hams drive their wheels over Wisconsin roads to enjoy delicious meals and delightful conversation. Take, for example, the Ozaukee area breakfast that is rapidly becoming popular. Every Saturday, about a dozen Amateurs drive or carpool to the Grafton Bowl, 1305 Wisconsin Avenue in Grafton. A talk-in on 146.97 begins around 8:30 a.m., with breakfast at 9 a.m. This is a superb opportunity for Hams who like to talk, eat and skip formalities, to savor great food and catch up on the latest news. The Ozaukee Radio Club still holds its monthly meetings, also by popular demand, for the formal business meetings and programs, separate from the weekly breakfast.

Each third Tuesday of the month, another group of about 25 happy Amateurs, plus a few spouses, meet at the Scanda House Smorgasbord, 11011 West Oklahoma Avenue, in West Allis. The group calls the event "CQ Third Tuesday". No one goes home hungry, because the lunch is an all-you-can-eat buffet, including sweets at an endless dessert counter. Tuesday's menu, although the same each time, offers a vast overall variety of nourishing food. Occasionally, brief announcements are given amidst the abundant conversation and laughter. Out of town guests and visitors are introduced, events and swapfests are announced, and in a more subdued manner the Silent Keys and sick friends of the group are remembered.

Each Saturday at 7:15 a.m., about 15 Amateurs and some spouses, relatives and friends from the southeastern part of the state meet at Around-the-Clock Restaurant, 3012 Rapids Drive in Racine. Even though there are seldom any announcements here, there's always plenty of eating of food and talking about Ham Radio.

Saturday around 9:30 to 10 a.m., many Amateurs meet in Madison at the Mother's Day Family Restaurant, Lake Edge Shopping Center near Monona Drive and Buckeye Road. More details are available from N9DRA.



Rumors are that business-less Ham socials take place in La Crosse, Rhinelander and Sturgeon Bay, where coffee, eats and chatter can be found. If you know the details or have heard of a few more events like these, please let the Badger State Smoke Signals know the details. Then mobile operators, in a breakfast or luncheon area, can listen to the local repeater for directions, find the path to such events, and take a memorable side trip on their long journey.

The latest wheels to meals for Hams is handled by the Milwaukee Repeater Club, Inc., on the first Friday of the month at around 7:00 p.m. at Serb Memorial Hall's Friday Fish Fry, 5101 West Oklahoma Avenue in Milwaukee. Reservations can be made with Bill, N9GYC, telephone (414) 542-5101. Besides the regular famous traditional fried fish, the Serb Hall menu lists the Serbian style fish, which is baked in tomato sauce with garlic. Because this repeater group is known for being "Friendly", you can certainly bring a friend or two along. Serb Hall, the same place as the group's Friendly Fest which is held each November, is conveniently located on a bus route for folks who would like to attend but cannot drive a car. The main purpose of the Fish Fry is to have fun, know each other better, and have a good meal.

When you're hungry and wonder what a Ham Radio wheels-to-meals social might be like, picture this: Conversation halts when your meal arrives - a plate of steaming hot fried fish, accompanied by tasty french fries, buttered slices of rye bread, and a bowl of cool cole slaw. You pick up a fresh lemon slice and squeeze drops of lemon juice onto the delicious fish. Your fork is ready.... Now, doesn't that kind of Ham Radio meeting make your mouth water?

READING SOMEONE ELSE'S COPY OF BADGER STATE SMOKE SIGNALS? Help yourself and help BSSS; subscribe today! Please use the blank at left.



BADGER STATE
Smoke Signals

For Radio Amateurs • By Radio Amateurs

- REGULAR INDIVIDUAL SUBSCRIPTION RATES -
Please make checks or money orders payable to
Badger State Smoke Signals.

1 year (12 issues) \$8.50
2 years (24 issues) \$16.00 (save \$1.00)
3 years (36 issues) \$23.00 (save \$2.50)

Please send check or money order to
Jim Decker, WB9UQT, Treasurer, P.O.
Box 337, Baraboo, WI 53913-0337.

PLEASE PRINT

1088

Name: _____ Call (if any): _____

Address: _____ City: _____ State: _____ ZIP: _____

☐ 1 year ☐ 2 years ☐ 3 years

☐ new ☐ renewal

ARRL Election in Progress

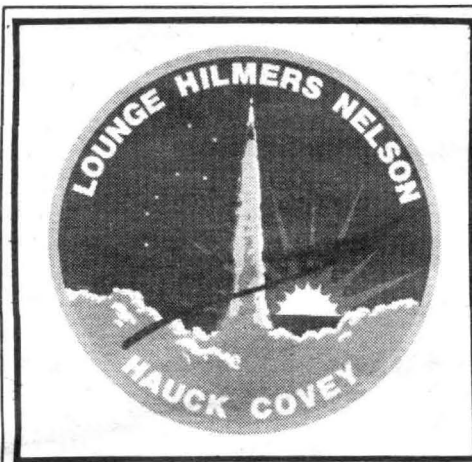
There are contested elections in all 8 ARRL Divisions up for election this year, including the Central Division, which is comprised of Illinois, Indiana, and Wisconsin. Ballots will be mailed from ARRL Headquarters by the first of October, and must be received at HQ by noon November 21.

There was only one candidate for Director of the Central Division: Incumbent Edmond A. Metzger, W9PRN, was unopposed, and will serve another two-year term.

There is a contest for Vice-Director of the Central Division, where incumbent Howard S. Huntington, K9KM, is opposed by Kenneth A. Ebner, K9EN.

Badger State Smoke Signals reminds League members to watch for their ballot in the mail, and to mark and return it to ARRL Headquarters.

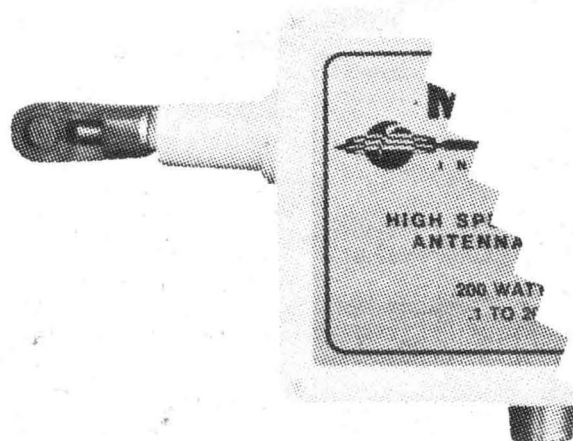
- Parts excerpted from The ARRL Letter



SHUTTLE REBIRTH

This is the STS-26 crew patch for the Space Shuttle Discovery, set for liftoff Sept. 26 at this writing. The predominant themes are a new beginning (sunrise); a safe mission (stylized launch and plume); NASA's traditional strengths (the vector which symbolizes aeronautics on the original NASA insignia); and a remembrance of their seven colleagues who died aboard Challenger (the 7-starred big dipper). NASA photo

**THIS IS WHAT
YOU'LL GET....**



**IF YOU BUY AN
IMITATION MAXCOM® !!**

Absolutely no tuning with a MAXCOM® system.
Simply connect, dial your frequency and talk...
That's it, just TALK.

OVER 5000 MAXCOM STATIONS WORLD WIDE
BOX 502, FT. LAUD., FL 33302 (305) 523-6369

® MAXCOM is a registered trademark and is owned by Maxcom Electronics, Inc.
THE BOTTOM LINE: "MAXCOM® WORKS"

Amateurs Angry, Dismayed at FCC Action

The FCC action to reallocate 220 - 222 MHz has been greeted with anger and disbelief in the Amateur Radio community. "What can we do to reverse this incredible decision?" is the question most often asked.

In The ARRL Letter and in a special insert to September QST (and in the September issue of Badger State Smoke Signals), Radio Amateurs and League members were advised of what steps to take to line up Congressional support. Simultaneously, work is being done in the administrative/judicial track to ensure that we take advantage of every available opportunity to seek reconsideration or, if necessary, court reversal of the reallocation.

A number of League members have urged that legal action be taken immediately to block the reallocation. While it's possible to ask for immediate review of a Commission action by the U.S. Court of Appeals, in a complex proceeding it is better strategy to do so only after filing a Petition for Reconsideration with the Commission itself. Otherwise, the Court will be basing its review only upon the information previously brought before the Commission and the opportunity to place new, previously unavailable information into the record will be lost. Thus, FCC reconsideration of its action should be sought, irrespective of whether one believes it's possible, with mere facts, to change any minds at FCC on this issue. To be timely filed, such Petitions for Reconsideration must be received by FCC no later than 30 days following publication of the final action (in this case, the Report and Order, which was published September 6, 1988.) Preparation and submission of a Petition for Reconsideration is the first priority.

Petitions for Reconsideration often are accompanied by Petitions for Stay of the Effective Date of the action being reconsidered. In this case that may not be necessary, because no reallocation will take place until rules are adopted for the assignment of 220-MHz frequencies - a separate rulemaking proceeding which is likely to be very time-consuming.

The bottom line is: we're a long way from the final round of the 220-MHz fight. Stay tuned - and stay active!

(From The ARRL Letter, published by the American Radio Relay League, Inc., 225 Main St., Newington CT 06111)

Courage Cards A full-color catalog of beautiful holiday greeting cards is now available. Proceeds from the sale of these cards go to Courage Center, a non-profit United Way organization that provides physical rehabilitation and independent living services to people with physical disabilities and sensory impairments throughout the U.S. Write: Courage Cards, Courage Center, 3915 Golden Valley Rd., Golden Valley, MN 55422.

USED HAM GEAR

WE BUY • SELL • TRADE • CONSIGN

ICOM • YAESU • KENWOOD • DRAKE, etc.

**SPECIALIZE
IN THOSE
HARD TO
FIND
ITEMS**

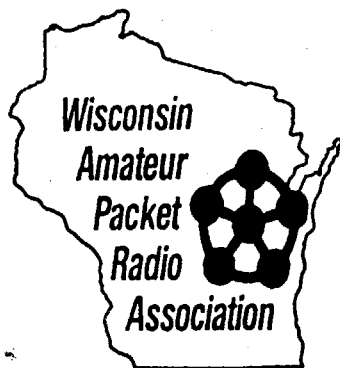
Anthony Musero, K3UKW
1609 S. Iseminger St.
Philadelphia, PA 19148
215 271-8898

**LATE
MODELS &
ACCESSORIES**

DO YOU HAVE ANYTHING TO GET RID OF?

215 271-8898

**CALL OR
WRITE
TODAY**



THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association (WAPR)

c/o CARL SCHUMACHER, N9BYS
7740 EVERGREEN TERRACE
BURLINGTON, WI 53106

Steve Loeffler, WB9ZRE, Editor, 123 W. Oshkosh St., Ripon, WI 54971

NETWORKING IN WISCONSIN

This month I am going to attempt to cover the what, how, why, and where of Packet Networking in Wisconsin and how you, I, and WAPR can fit in the picture.

WHAT IS A NETWORK?

A network as we are concerned with in Packet Radio consists of a number of nodes or digipeaters that can "talk" to each other, either directly or indirectly. A good network will usually have 2 nodes at each site using 2 radios on different bands. Sometimes it will also use a radio and a wireline.

WHY DO WE NEED A GOOD NETWORK?

Amateur Radio's basic goals are thought to be emergency preparedness and technical advancement. These are our primary goals in developing a solid network with coverage throughout the state and having the ability to keep it operating at all times in case it will be needed in a disaster.

WHERE ARE THESE NODES NEEDED?

To answer this question, ask yourself, can I get there from here and just how reliable is the path? Is it there when we have a band opening? Is it there in bad weather? If the answer is no, then we are not prepared and some thoughts should

be given to placing an intermediate node in line. These nodes should be located on high towers or on the highest hills possible for maximum effectiveness as the frequencies used are usually VHF and UHF. We do have a very good network operating in Southern Wisconsin with solid links into Illinois on 2 bands now. We are now contemplating on expanding the network to the North and West.

HOW ARE WE GOING TO ACCOMPLISH THIS?

This is a very good question and I am not sure that I have all the answers, but I will outline a few of my thoughts on the subject. We already have some good nodes & digipeaters in the state, but they are all single frequency or 2 (continued on page 19)

WISCONSIN PACKET DIGI/NODE/PBBS LISTING

WAPR - 9/9/88

CALL/ ALIAS	LOCATION/ FREQUENCY	TYPE	CALL/ ALIAS	LOCATION/ FREQUENCY	TYPE	CALL/ ALIAS	LOCATION/ FREQUENCY	TYPE	CALL/ ALIAS	LOCATION/ FREQUENCY	TYPE
W9CWD MSN	Baraboo 145.07	Digi	WB8CHJ-2 IRN	Iron River, MI 145.01	Node(2) No Digi	WA9KEC-2 KEC	North Prairie 145.01	Node(2)	KD9NV SPT	Stevens Point 145.01	Digi/PBBS
KA9JDE BVD	Beaver Dam 145.01	Digi	KD9JK JVL	Janesville 145.07	Digi	WA9KEC-3 #KECB	North Prairie 446.10	Node(2)	KD9NV SPTL	Stevens Point 145.09	Digi/PBBS
W0AIH EAU	Brackets 145.01	Digi	WA9FI0-1 LSE	La Crosse 145.01	Node(1)	WA9KEC-4 #KECS	North Prairie 446.10	Node(2) Conn > WA9KEC BBS	WB9QFW STE	Stevens Point 145.01	Node(1) CWRA
N9BYS BUR	Burlington 145.09	Digi/PBBS	WB9QHD-13 MAD	Madison 446.10	Node(1) Wormhole > #MKEB	WA9KEC-5 KECL	North Prairie 145.09	Node(2)	VE3CX TBN	Thunder Bay, ON 145.01	Digi/PBBS
WB9DHI-8 #DHIB	Burlington 446.10	Node(2)	WB9QHD-15 MAD	Madison 145.01	Node(1) Wormhole > #OTA	WA9FI0-2 LSE2	Onalaska 145.09	Node(2)	N9CLE-1 AUM	Tomahawk 145.01	Node(1)
WB9DHI-9 DHIL	Burlington 145.09	Node(2)	KB9WC-1 GLK	Markesan 145.01	PBBS	W9LZQ-1 LSE2	Onalaska/Winona 145.01	PBBS	AA9M Viroqua	145.01	Digi
WB9DHI-1 CNX	Calumet, MI 145.01	Node(2)	KB9WC-2 GLK	Markesan 145.01	KA/NODE	W9LZQ-1 LSE2	Onalaska/Winona 145.09	PBBS RiverLAN	WA9POV-9 #MKEB	Waukesha 446.10	Node(2) Wormhole > QHD-13
WB9DHI-7 DHIC	Cedarburg 145.09	Node(2)	W8OLE MGT	Marquette, MI 145.01	Node(1) No Digi	N9ALG	Oshkosh 145.01	Digi	W9PY	Whitefish Bay 145.03	Digi
N9AM CUD	Cudahy 145.09	Digi/PBBS	WB9QHD-14 MGT	Marquette, MI 145.01	Node(1) Wormhole > MAD	WB9ZRE-1 Ripon	145.01	PBBS	Node(1) = NET/ROM Node(2) = TheNet		
KD9UU-9 DAR	Darlington 145.01	Node(1)	WB9TYT-9 #TYTB	Milwaukee 446.10	Node(2)	WB9ZRE-2 Ripon	145.01	KA/NODE			
K8ZAS ESC	Escanaba, MI 145.01	Digi	WB9TYT TYT	Milwaukee 145.01	Digi/PBBS	VE3FOD FOD	Sault St. Marie 145.01	Digi/PBBS	This listing will be updated and released periodically. Send additions and changes to WAPR @ WB9TYT. Upper Peninsula and adjacent Ontario sta- tions are listed for your convenience because of their close networking relationship with Wisconsin.		
KB9OK	Germantown 145.03	Digi	WB9ANY NWB	New Berlin 145.09	Digi/PBBS	VE3BF	Sault St. Marie 145.01	Digi/PBBS			
WA9SXN	Green Bay 145.01	Digi	WA9SOU-2 NFR	North Freedom 145.01	Node(1)	WB9TYT-7 SLG	Slinger 145.01	Node(2)			
WB8FXQ-2 INT	Iron Mountain, 145.01	MDigi N2WX Type Switch				WB9TYT-8 #SLGB	Slinger 446.10	Node(2)			

TERMINAL PROGRAM FOR RADIO SHACK MODEL 100/102

Dust off your Model 100 or 102 laptop and enjoy using it on packet with this handy terminal program designed by Bruce Hansemann - W9LCK and enhanced by Steve Loeffler - WB9ZRE.

The program features a split-screen, file upload and download operation, direct mode, review, memory available display, typing buffer counter, repeat and keyable XON/XOFF.

Before typing the entire listing, consider downloading it from your local packet radio BBS. If you cannot locate a copy on your local BBS, you are encouraged to contact W9LZQ @ W9LZQ-1 who is handling packet BBS forwarding. Ask for a copy of W9LCK's TERMC0 and TERMBA for the model 100/102.

Documentation File:

Those users that want to modify the program are encouraged to do so with the following restrictions - That they: 1.) Add their name to the the end of the line 1,2,3 or 4 Rem statement (for documentation and credit purposes), 2.) Document their changes to the program and add it to the end of the Documentation File prior to redistribution, and 3.) Send a copy of the modification(s) and documentation to the primary authors. Revisions will be released as significant contributions are received with appropriate credit given to the programmer(s). There is always room for improvement. Go for it!

Authorization for free publication and free distribution is hereby given. Sale of this program or any part of this program in any form without prior written permission is prohibited.

Here we go:

W9LCK's Portable Packet Program - Version 2.3 consists of two basic programs, the first program is actually a machine language loader that pokes the machine language commands into 'secure' memory locations. Secure in this instance means that under normal operation, these memory locations will remain intact until power to RAM is interrupted. (It is a good idea to maintain a copy of the loader program on file in the event of a mishap). The machine language program minimizes program execution delays that would be noticable if these portions were programmed in basic. The second program is the terminal program that you will call from the Menu whenever you wish to operate this version.

TNC Set-Up:

In order for this program to run on the Model 100/102, the following TNC parameters MUST be set up and the TNC must respond to the XON/XOFF and START/STOP characters correctly. Most TNC's support software flow control, however, an exception is the GLB PK1 and PK1-L TNCs which will not work with this program.

Set TNC parameters as follows:

COMMAND \$04 Note: Control C (\$03) is used by Basic as a BREAK and cannot be sent by the program to the TNC.

XON \$11
XOFF \$13
START \$11
STOP \$13

XFLOW ON
FLOW OFF
SCREENLN 0
ECHO OFF
AUTOLF Optional Program ignores Linefeeds

ABAUD 1200 or 9600 Program set up to operate at 9600 baud, but will operate at 1200. Set your TNC accordingly. You may have use the TELCOM program initially to set the above parameters before running this program.

This version of the program must have a machine language interface that is loaded once and remains in memory. It need not be reloaded every time you run the terminal program unless you have other machine language programs in memory or you run another program that changes Hi-memory. Run the machine language loader first then load and run the terminal program.

If you are not familiar with loading and downloading basic programs as text files from a BBS, use the following procedure:

Use TELCOM to download the two text files "TERMC0" and "TERMBA". When downloading is complete, use the TEXT program and edit out any junk text that may have been saved in the files.

Go to basic and type the command: RUN "TERMC0.DO" (Enter). The message 'Loading...' will be displayed followed by an alternating icon showing that the program is running. After loading is complete the checksum will be displayed. A correct load will indicate a checksum of 40090. If you do not receive this number, the program is not intact. Check to verify that the first 9 data lines contain 64 alphanumeric characters. The last data line contains 30 characters. (Some BBSs will insert a carriage return automatically after the 80th character in the line. Be sure your download does not contain any extra <CR>s!).

Now save the loader program to the MENU file: SAVEM"TERM.CO",62390,62694 (Enter).

Type: NEW (Enter) and then: LOAD"TERMBA.DO" (Enter). When loading is complete, type: SAVE"TERM" (Enter). The terminal program has now been installed in the MENU file as Basic program TERM.BA.

Now type: Kill"TERMC0.DO" (Enter) and: KILL"TERMBA.DO" (Enter) to erase the TEXT files of the program and free up memory.

Return from Basic to the MENU and select "TERM.BA". The program is now operational!

The bottom line keyboard buffer will scroll left and right and has a capacity of 128 characters. It operates in the character insertion mode only.

Use the following commands to edit the keyboard buffer:

Control-R Repeat buffer contents on <CR>. CTRL-R toggles function on and off.
Control-N Clear all text from input buffer.
Control-B Move type entry to beginning of line.
Control-E Move type entry to end of line.
DEL/BCKSP Delete character to left of cursor.
L/R Arrows Move type entry 1 character at a time

Pressing the RETURN key will send the buffer to the TNC and append a carriage return. Pressing the return key when the buffer is clear

will send a carriage return to the TNC.

The function keys are defined as noted below (lines 4100-4800). It would be a good idea to place written labels above these keys until you have them memorized.

Note: When a download file is open, "BUFFER ON" will appear on the dotted line. Pressing F1 again or F2 will close the file and "BUFFER OFF" will reappear.

The function keys are not cast in concrete and you may want to change the program to alter the functions. An error checking routine is included that will stop the program and indicate what error caused the problem.

Program Notes:

10-40 Main program loop. Check and process any serial chars (Z\$). Check keyboard and process any keystrokes (E\$). Continue main loop using a short (1-2 sec) keyboard delay to prevent serial strings from interrupting keyboard entry.

100-510 Process keyboard characters.

110 Send unused control characters to serial port.

170 Send bottom line window out serial port and to screen if echo on.

300 Update bottom line window.

500 Reset bottom line cursor.

4100-4800 The 8 function key are defined as follows:

4100 Open/Close a RAM text file for download. Be careful if you use the name of a file that already exists! The original file will be cleared first. "Buffer ON" on the dotted line indicates file is open.

4200 Send a RAM text file to the TNC. A simple means of detecting a "Disconnect" is implemented by detecting a "*" character received during an upload and aborting if so. If you TNC sends different characters prior to the "DISCONNECT", change line 4245 accordingly.

4300 Toggle direct mode (keyboard direct to TNC - no cursor) "DIRECT" shows on dotted line when in direct mode.

4400 Review last 8 strings printed to screen.

4500 Display date and time .

4600 Send "Control Q" out serial port. "Start TNC output (XON).

4700 Send "Control S" out serial port. "Stop TNC output (XOFF).

4800 Exit program and close files.

9000 Initialize variables for Peeks, Pokes, Calls, etc.

Assembly Language calls:

Call RD! Read serial port characters from TNC into Z\$. All CTRL characters are filtered out except return, backspace delete and bell. This

routine will time out after about 20ms if no characters are received. Variable "S" indicates if end of line is true and "Z" indicates # of characters in Z\$.

Call CD!,x Clear to end of line and reset cursor to x.
Call SC! Send Z\$ to upper 6 line window and scroll.
Call OU! Send O\$ out serial port to TNC
Call CO! Turn cursor on.
Call CF! Turn cursor off.
Call CB! Clear bottom line, set cursor to 1

Some notes on flow control:

The Model 100 uses hardware interrupts on incoming serial characters automatically buffering characters and sending an XON/XOFF to the TNC as necessary. If you wish to manually send an XON/XOFF to the TNC, you must use the function keys #6 and #7. You cannot just type control "S" and "Q". The Model 100 uses the "Control-S" (or pause key) key in a special way to halt program activity (pause).

If you wish to halt the display, press the pause key (or CTRL-S). If you wish to exit the program and stop TNC output, use the function 8 key. If you find the program is hung-up, it may

be because you have pressed CTRL-S or the pause key by mistake. Try pressing the pause key to get the program running again.

Caution: Do not press the print or label keys while in the terminal mode. Pressing these keys will cause the display to show the label line or hang on an attempt to print!

If you wish to change the program baud rate, change line #9010.

For 1200 baud line 9010 should read:

9010 OPEN"COM:58N1E" FOR OUTPUT AS 1: OPEN"COM:58N1E" FOR INPUT AS 2

TERMCO (Machine Language Loader)

```
10 CLS: CLEAR1000,62300:PRINT@45,"Loading...";
15 P=62300:Q=0:FORI=1TO10:READA$: FORJ=1TOLEN(A$)STEP2:H=0:FOR K=0TO1
20 G=ASC(MID$(A$,J+K,1))-48:IFG>9THENG=G-7
30 H=16*H+G:NEXTK:POKEP,H:P=P+1:GOSUB50:NEXTJ:NEXTI
40 PRINT@40,"Loading Complete - Checksum=";PRINTQ:END
50 Q=Q+H:Z=ZXOR1:IFZTHENPRINT@55,CHR$(229):RETURNELSEPRINT@55,CHR$(230):RET
URN
101 DATA"2187F4CD9047EB2289F4AF7721ECF4474FCD7E72C2B3F305CAB3F3CD6D6DCA6D"
102 DATA"F30CCAB2F3CD7E6DE67FE20D29EF3FE0DCA9EF3FE08CA9EF3FE07CA9EF30DC3"
103 DATA"6DF377FE0DCAAF323AF47C36DF32A89F43601C3B3F30DC52185F4CD9047EBC1"
104 DATA"71C52181F4CD9047EBC17111ECF423732372C9672E08CD5D42CD7C42C34942CD"
105 DATA"4E4226012E08CD7C42CD5D42C34942CD4E422A39F6228BF42A8DF42239F62181"
106 DATA"F4CD9047EB46235E2356EB3A3AF6FE01CC2BF44EE5C5CD4C43C1E12305C207F4"
107 DATA"2A39F6228DF42A8BF42239F6C34942E5C53E052E01CDD2442139F63606233601"
108 DATA"C1E1C9CD4CF47ECD326E2305C242F4C92183F4CD9047EB46235E2356EBC9571E"
109 DATA"07D5CD4E42CD4CF4D14EE5C5D5CDEE73D1C1E1231405C265F4C34942CD3A42CD"
110 DATA"3142C33F425A244F245A255325000000000601"
```

TERMBA (Terminal Program)

```
0 REM - Copyright 1988, W9LCK & WB9ZRE - All Rights Reserved
1 REM - Contributors:
5 CLS:PRINT@56,"W9LCK's":PRINT@123,"*** Portable Packet Program ***":PRINT
@214,"Version 2.3":FORD=1TO1000:NEXT:SOUND1000,10:
10 CLEAR1200:MAXFILES=3:ONERRORGOTO9900:GOSUB9000:CALLCO!
15 PRINT@280,"<"
20 CALLRD!:IFZTHENCALLSC!:PRINT@266,"--MEM="FRE(0):PRINT@278,"--":SC$(Q)=Z$
: Q=(QAND7)+1:IFFTHEN30ELSEIFFRE(0)<MTHENGOSUB4150ELSEIFSTHENPRINT#3,LEFT$(
Z$, (LEN(Z$)-1))ELSEPRINT#3,Z$;
30 KEYON:E$=INKEY$:KEYSTOP:CALLCF!:IFE$<>"":THENIFETHENCALLCF!:Z$=E$:CALLSC!
: O$=E$:CALLOU!:CALLCO!:GOTO20ELSE20:CALLCF!:GOTO100
40 D=D-1:IFD<0THEND=0:GOTO20ELSE30
100 IFLEN(L$)+LEN(R$)=70THENBEEP
101 IFASC(E$)>31THENIFLEN(L$)+LEN(R$)>127THENBEEP:GOTO30ELSEL$=L$+E$:GOTO51
0
110 ONINSTR(ED$,E$)GOTO170,120,130,140,150,160,180,600:PRINT#1,E$;:CALLCO!:
GOTO20
120 IFR$=""THENBEEP:CALLCO!:GOTO30ELSEL$=L$+LEFT$(R$,1): R$=RIGHT$(R$,LEN(R
$)-1):GOTO510
130 IFL$=""THENBEEP:CALLCO!:GOTO30ELSER$=RIGHT$(L$,1)+R$: L$=LEFT$(L$,LEN(L
$)-1):GOTO500
140 IFL$<>"":THENL$=LEFT$(L$,LEN(L$)-1):GOTO500ELSEBEEP:CALLCO!:GOTO30
150 R$=L$+R$:L$="" :L=1:C=1:GOTO300
160 L$=L$+R$:R$="" :IFLEN(L$)<40THENC=LEN(L$)+1:L=1:GOTO300ELSEC=35: L=LEN(L
$)-33:GOTO300
170 O$=L$+R$+CR$:CALLOU!:D=0:IFKTHENZ$=O$:CALLSC!
180 IFRTHEN300ELSEL$="" :R$="" :L=1:C=1
300 O$=L$+R$+"<":PRINT@280,MID$(O$,L,39);:CALLCD!:C:PRINT@315,LEN(O$)-1:GOT
O30
310 O$=STR$(LEN(O$))+ " --":CALLSD!,34:GOTO30
```

```
500 C=C-1:IFC<12ANDL>1THENC=12:L=L-1:GOTO300ELSE300
510 C=C+1:IFC>35THENC=35:L=L+1:GOTO300ELSE300
600 R=RXOR1:BEEP:IFRTHENPRINT@268,CHR$(27);CHR$(112)" REPEAT"CHR$(27);CHR$
(113)ELSEPRINT@266,"--MEM="FRE(0):PRINT@278,"--"
610 GOTO20
4100 IFF=0THEN4150
4110 GOSUB4900:ONERRORGOTO4145:BEEP:LINE INPUT"Holding Buffer Filename> ";O
$
4120 OPENO$FOROUTPUTAS3:F=0:V=1:GOSUB9094:CALLCB!:BEEP:RETURN
4145 IFERR=520RERR=55THENCALLCB!:RESUME4150ELSE9900
4150 ONERRORGOTO9900:CLOSE3:PRINT@242,"Buffer OFF":F=1:BEEP:RETURN
4200 CLS:FILES:PRINT@240,"--Buffer-----MEM=":PRINT@262,X$: PR
INT@272,FRE(0):PRINT@278,"--":GOSUB4900:ONERRORGOTO4250:BEEP: LINEINPUT"Up1
oad Filename> ";O$:CALLCB!
4205 IFETHENPRINT@254,"DIRECT":RETURNELSEPRINT@254,"-----"
4210 OPENO$FORINPUTAS3:F=1:PRINT@280,"Press any key to abort upload"
4220 IFINKEY$<>"":OREOF(3)THEN4260ELSELINEINPUT#3,O$
4230 IFLEN(O$)<255THENO$=O$+CR$
4240 CALLOU!:Z$=O$:CALLSC!
4245 CALLRD!:IFINSTR(Z$,"*")THENCALLSC!:GOTO4260ELSEIFZTHENCALLSC!:GOTO4220
ELSE4220
4250 PRINT@280,"File Does Not Exist!":SOUND14000,50: IFERR=520RERR=55THENR
ESUME4260ELSE9900
4260 ONERRORGOTO9900:BEEP:CALLCB!:CLOSE3:RETURN
4300 E=EXOR1:IFETHENPRINT@254,"DIRECT":BEEP:RETURNELSEPRINT@254,"-----":BE
EP:RETURN
4400 Z$=CR$+" *** RETREIVED ***"+CR$+CR$:CALLSC!
4410 FORI=1TO8:Z$=SC$(Q):IFZ$=""THENQ=(QAND7)+1:NEXTELSECALLSC!:Q=(QAND7)+1
:NEXT
4420 Z$=CR$:CALLSC!:BEEP:RETURN
4500 CALLCB!:PRINT@280," DATE "DATE$;" TIME "TIME$;" UTC":BEEP:RETURN
4600 PRINT#1,CHR$(17);:X$="XON-":PRINT@262,X$:BEEP:RETURN
4700 PRINT#1,CHR$(19);:X$="XOFF-":PRINT@262,X$:BEEP:RETURN
4800 CALLCB!:PRINT"*** QUIT *** > (Y=YES)":CALLCF!
4801 QU$=INKEY$:SOUND1000,1:FORDE=1TO2000:NEXT:IFQU$=""GOTO4801
4802 IFQU$="Y"ORQU$="y"GOTO4804
4803 X$="XON-":PRINT@262,X$:PRINT#1,CHR$(17);:CALLCO!:GOTO300
4804 CLOSE:CLS:CALL16964:MENU
4900 CLOSE3:V=0:GOSUB9080:CALLCB!:RETURN
9000 ONKEYGOSUB4100,4200,4300,4400,4500,4600,4700,4800:KEYON
9010 OPEN"COM:88N1E"FOROUTPUTAS1:OPEN"COM:88N1E"FORINPUTAS2
9020 Z$=" ":E$=" ":O$=" ":CR$=CHR$(13)
9030 DEFINITA-Z:Q=1:E=0:F=1:K=1:S=0:Z=0:M=1000:CO!=16969:CF!=16974
9040 RD!=62300:CD!=62415:CB!=62427:SC!=62443:OU!=62527:SD!=62554:CI!=62584
9060 CALLCI!:PRINT@240,"--Buffer-----MEM=":PRINT@272,FRE(0):
PRINT@278,"--"
9070 ED$=+CHR$(13)+CHR$(28)+CHR$(29)+CHR$(8)+CHR$(2)+CHR$(5)+CHR$(14)+CHR$
(18)
9080 L$="" :R$="" :L=1:C=1
9094 IFV=1THENPRINT@249,"ON-":RETURN
9095 IFV=0THENPRINT@249,"OFF":RETURN
9900 BEEP:CLS:PRINT@50,"PROGRAM TERMINATED":PRINT:PRINT"ERROR "+STR$(ERR)+"
```

WAPR AUGUST 1988 FINANCIAL REPORT

Income		Expenses		Cash on Hand	\$76.08
Dues	\$38.50	BSSS	\$27.50	Bank Balance Fwd	\$622.50
Total	\$38.50	Total	\$27.50	Net Balance	\$687.58

Yellow Thunder Amateur Radio Club

K90DK
WB9FDZ

Harry Westlund, K9EHJ,
Secretary
720 Lincoln Avenue
Baraboo, WI 53913

The September 19, 1988 meeting of the Y.T.A.R.C. was called to order by President Steve Schwoegler at 7:35 p.m.

The following were in attendance:

Duane Grotophorst	KA9HKL	Loganville
Harry Mayland	K9FFT	Baraboo
Art Kleefisch	W9WSS	Baraboo
Bill Klinkner		Sauk City
John Frank	WB9TQG	Madison (Guest)
Jim Decker	WB9UQT	Baraboo
Steven R. Schwoegler	WB9RNL	Wisconsin Dells
Jim Romelfanger	K9ZZ	Baraboo (Guest)
H. A. Reif	KA9YQP	Baraboo
Harry Westlund	K9EHJ	Baraboo
Marvin Kaiser		Lake Delton (Guest)
Ken Ebnetter	K9EN	Portage

The minutes of the previous meeting were approved as published in the B.S.S.S.

The treasurer reported no activity and the financial status is the same as last month.

The secretary read a letter from AI6V, Carl Cook. Carl and 16 other Hams are going on a DXpedition to Aruba, and will attempt to break the all-time world record in the CQ Worldwide contest on October 29 and 30, 1988. Look for P40V.

There were two guests present this evening: John Frank, WB9TQG, speaker for the evening, and Marvin Kaiser, Lake Delton, a Novice class and member prospect.

The president then asked for open discussion on the matter of Novice classes and resolution of the matter at this meeting. After much pro and con on the matter, the following was decided:

- (1) Classes would be held 2 nights a week.
- (2) First gathering would be an optional attendance at our next meeting on October 11, 1988. No class that night, just an introduction to the club.
- (3) Regular class sessions will be on Mondays and Thursdays, with the first formal class on Monday, October 17, 1988.
- (4) There will be a \$10.00 fee to offset the cost of room rental in the Civic Center.

The president then asked no more business be

brought forth so the program for the evening could be started.

The Buck Nite drawing was held, and was won by James Decker, our treasurer??????????

On a motion from Art Kleefisch, and seconded by James Decker, the meeting was adjourned at 8:08 p.m.

After a short break, John Frank, WB9TQG, of Madison, gave a slide presentation on the procedure of transmitting weather information throughout the state. Pictures showed the varied equipment used. These stations are operated by the National Weather Service on 162.40 to 162.55 MHz FM.

The club thanks Mr. Frank for a most interesting and informative presentation.

Respectfully submitted:

Harry Westlund, K9EHJ, Secretary

YTARC BIRTHDAY

Paul Amend KA90BP October 10

SENTENCE SERMON

Those who would make their lives count, should be counted among those upon whom some church may count.

FROM THE AFFILIATED CLUB COORDINATOR

(continued from page 4)

the frequency spectrum presently being held by Amateur Radio is constantly being threatened by other groups, non-profit or otherwise, an example of which is the recent giving to Land Mobile of 220-222 MHz. The only way to avoid this in the future is with the organized efforts of a large group of Hams. To me, this reason alone warrants being affiliated, but there are many others that I will list.

Knowing who the other Hams are in your area is important so your club can recruit active members. As an affiliated club, a periodic list of newly licensed Hams or potential Hams is sent to you by the League.

Periodic bulletins are sent to clubs, with items of interest to the club members, such as the quarterly "Field Forum" newsletter.

The ARRL's audio-visual library is available to your club for viewing at meetings.

Your club can help build its treasury by retaining two dollars for each renewing League member, or five dollars for each new member of the ARRL.

As a more active club, you may be eligible as a Special Service Club, which entitles your club to even more benefits.

The ARRL offers liability and equipment insurance at group rates.

Mailing labels are available to you at no

charge once a year, or more often, at a small fee.

The list continues, but the few benefits that I have mentioned should be reason enough to become affiliated with the American Radio Relay League. Affiliation is an easy procedure to do, and as ACC for the Wisconsin Section, it is my job to help you achieve it. The first step is to let me know of your club's interest, and I will send you the needed materials to get started.

Send a letter to me at my address at the beginning of this column.

NETWORKING IN WISCONSIN

(continued from page 16)

ports on one band. We must place a second port on another band on existing nodes, displace some digi's with node software and place some intermediate nodes to correct marginal paths.

HOW WILL WE EVER BE ABLE TO AFFORD THIS?

This is where we all enter the picture. I have asked the Board of Directors of WAPR to increase the dues and let WAPR help out with some, not all, of the financial problems. At the moment we could afford to supply the node software, the EPROM, a 32k RAM chip, etc. With more money in the till and more members in WAPR, we could afford to do more and are planning to do more.

Another suggestion is to form a small club in your area to find a site and raise some local financing. Call anyone on the WAPR Board and we can help you with all the other items needed to operate a "good" node.

We will have a table at the KMRA Swapfest on October 30th at the Expo Center in Waukesha and will be giving demonstrations all morning. Joe, W9CWD, has volunteered to give a talk and demonstration on Basic Packet Radio. We will also be having a meeting there and I am looking forward to your input.

Thank You

Dan Bolander, WB9TYT,
Chairman of WAPR

FOR SALE: Kenwood Twins, R5990 - T5990, Late production with spare tubes and transistors. \$300.00. Yaesu FT-102 transceiver with hand mic and Manual, \$500. Harv Hamer, K9YHO, 1109 12th St., Apt. 6, Baraboo, WI 53913. (608) 356-3295.

Prejudice is a great time saver: It enables you to pass judgment without the necessity of getting the facts.

TROYER *Rexall* DRUGS

JACK D. TROYER, R. PH. — DAVID M. FUHS, R. PH.
106 - 4th AVENUE BARABOO, WISCONSIN
PHONE 356-4964
"Good Health Is Our Business"

WE MAINTAIN A COMPLETE RECORD OF ALL
YOUR FAMILY'S PRESCRIPTION PURCHASES

DESKS FILES SUPPLIES
PRINTING

Baraboo Office Supply

506 Ash Street
BARABOO, WISCONSIN 53913

JOHN E. LEE

(608) 356-2056

JEFF SMITH
General Manager

StarStation

WRPQ

AM 740

STEREO

P.O. Box 456 • Baraboo, Wisconsin 53913 • (608) 356-3974

AD•VU•TV
Subsidiary of WRPQ



BADGER STATE Smoke Signals

For Radio Amateurs • By Radio Amateurs



The Shopping Center



THE ORIGINAL MIDWINTER SWAPFEST

WAUKESHA EXPOSITION CENTER
HIGHWAYS J & FT
WAUKESHA, WISCONSIN

JANUARY 14, 1989

Both Sponsored By
THE WEST ALLIS RADIO AMATEUR CLUB
P. O. Box 1072 Milwaukee, Wisconsin 53201

HAM IT UP EVERY SPRING MADISON SWAPFEST

April 9, 1989

DANE COUNTY EXPO CENTER
FORUM BUILDING

Sponsored by MARA WB9AER

PO Box 4007 Madison, WI 53711

SOUTH MILWAUKEE AMATEUR RADIO CLUB SWAPFEST

July 8, 1989

(Held every July)

American Legion Park
Shepard Ave. Oak Creek, WI

South Milwaukee ARC PO Box 102
Milwaukee, WI 53172

Tri-County ARC Presents Spring Hamfest 1989

March 19, 1989

Jefferson County Fairgrounds
On Highway 18 West of Jefferson, WI

P.O. Box 321, Milton, WI 53563

REPLACEMENT BATTERIES FOR COMMUNICATIONS



EVERETT H. YOST
KB9XI

E.H. YOST & COMPANY
7344 TETIVA ROAD
SAUK CITY, WISCONSIN 53583
TELEPHONE (608) 643-3194



QSL Cards
QSL Business Cards
Write or Call TODAY for your
FREE SAMPLES!

The Little Print Shop

P.O. Box 1160
Pflugerville, Texas 78660
(512) 990-1192

AMATEUR ELECTRONIC SUPPLY®

4828 W. Fond du Lac Avenue
Milwaukee, WI 53216
Phone: (414) 442-4200

Wisconsin WATS: 1-800-242-5195
(Call TOLL FREE outside of Milwaukee Metro area)

HOURS: Mon. thru Fri. 9-5:30; Sat. 9-3

* OMAR ELECTRONICS *

FOR ALL YOUR AMATEUR NEEDS
SPECIAL PRICES on all

MFJ PRODUCTS • A.R.R.L. PUBLICATIONS
and other Ham Radio equipment!



404-466-3241



OMAR ELECTRONICS • Omar Pupo WA8FON
RTE 1 HIGHWAY 81 SO. • LOGANVILLE, GA 30249

BURK ELECTRONICS

Radios • Antennas • Electronic Equipment
Sales and Service
AMATEUR • BUSINESS • MARINE

WAYNE and ANN 35 North Kensington
NA9B KA9TAC La Grange, Illinois 60525
FCC License PG-18-7485 (312) 482-9310

VODAK TV SALES
COLOR TV • B & W TV
TOP TUNES • RECORDS • LP • STEREO
TV ANTENNA SYSTEMS • CB • SCANNERS



Radio Shack

We Stock
COMPUTERS
VCR's

Antenna Wire and Insulators
Coaxial Cable and Connectors
Coaxial Adapters

We now sell & install Satellite TV systems

Phone 356-6666

404 Oak Street
Baraboo, WI 53913

Baraboo Floral Company

1406 East Street

BARABOO, WISCONSIN 53913

FLOWERS FOR ALL OCCASIONS



BUY FROM A GROWER

We wire flowers almost everywhere

PHONE 356-5336 **WE DELIVER**



Giegerich's Sons

INC.

514 Park Avenue
PRAIRIE DU SAC, WISCONSIN 53578

**"Sauk Prairie's Quality Printers
and House of Office Supplies"**

Darrow's



CHECK OUT OUR...
**EVERYDAY
LOW PRICES**

COUNTRY MARKET
TOTAL DISCOUNT FOODS
935 8th Street • Box 90
Baraboo, Wisconsin 53913
356-2106
We Buy Aluminum Cans

Pierce's
356-5122
323 S. Broadway
Baraboo, WI

• WEDDINGS
• ANNIVERSARIES
• SPECIAL OCCASIONS

Viking II

BREAKFAST • LUNCH • DINNER
BANQUET FACILITIES

NIGHTLY SPECIALS • FAMILY DINING
SOUPS • STEAKS • SEAFOOD

Jerry's Hallmark Shop

Cards-Partyware
"Where Thoughtfulness Happens"

516 Oak Street
Baraboo, WI

356-6901

RHYME SUPPLY INCORPORATED



122 EAST COOK STREET PORTAGE, WIS.

COMPLETE LINE OF OFFICE MACHINES • FURNITURE • COMPUTERS

TELEPHONE
608-742-3747-5371

KEN HUTLER



RICHARD O. LUST, CAI
Certified Auctioneer/Broker
(608) 258-0024
K9APW

LUST AUCTION SERVICES

(608) 833-0011 / 258-8880
7552 Pioneer Place
Verona, Wisconsin 53593
(Statewide Service To Hams - Since 1975)

Auctioneering Real Estate

PIERCE'S
SUPERMARKETS

When in the area, shop our Baraboo, Fox Lake, Muscoda, Pardeeville, Portage North and Portage Downtown Stores!